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AESTRACT

Purposes of the research were (1) to gather data to provide occupaticnal and employment counselors with statistical data on employment and occupational-aptitudinal information on New Mexico Indians and (2) to collect data concerning workers' aptitudinal characteristics frequently needed by private industry as criteria for determining plant location on Indian land. In keeping with these objectives, the New Mexico State Employment Service surveyed 145 high school graduating seniors and 438 adults entering or seeking entry into the labor market. Most individuals in the sample were living within or near the following Government reservations: Acoma, Cochiti, Laguna, San Felipe, Santa Ana, Santo Domingo, Zuni Pueblos, and Navajo. The instrument utilized was the General Aptitude Test Battery (GATB), which established the occupational aptitude patterns. After discussions of various aspects of the GATB, the document provides tables and histograms reflecting the profiles for the Indian groups surveyed. (EI)

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PERFORMANCE OF SENIOR HIGH SCHOOL INDIANS AND ADULT INDIAN GROUPS IN NEW MEXICO ON THE GENERAL APTITUDE TEST BATTERY

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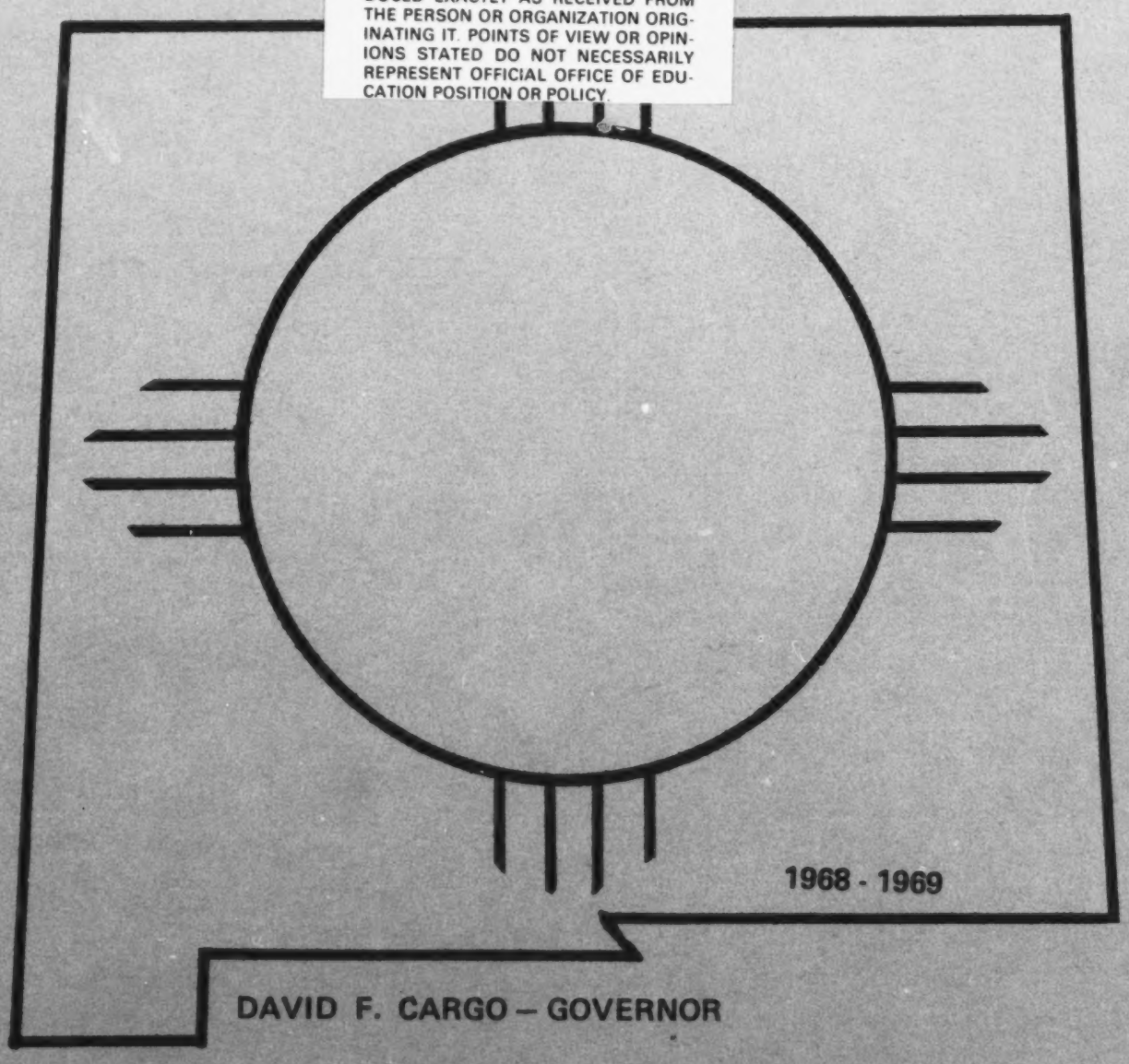

1968 - 1969

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Foreword

The cultural characteristics of the pueblo and the reservation Indians of New Mexico provides an ideal sample for a test study to determine the performance of New Mexico State Indians on the USES General Aptitude Test Battery. Today more than ever we need to know the occupational aptitudes and capacities of all of our populations if we are to gainfully utilize them in the radical technological advances occuring in our economy.

The populations and areas adjacent to the pueblos and reservations invoke the urgency for new industry and more commerce in order to replace their dwindled and outmoded agricultural sustenance. Possibly through studies of this type we can discredit the generalizations often made such as, "the lack of aptitudes or potentials in areas," and dispel the misconceptions by presenting adequate information that creditably depicts the facts.

The purpose of this research is to gather pertinent data so as to provide counselors and employers with factual statistical data on employment and occupational aptitudinal information that can help precipitate localization of industry in the state.

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I. PURPOSE

The New Mexico Agency conducted this study on the state's Indian population in efforts to collect data concerning worker aptitudinal characteristics frequently needed by private industry as criteria for determining plant location on Indian land.

II. BACKGROUND

According to the 1960 Census, New Mexico has an Indian population in excess of 56,000 which is nearly 6% of the total population. This group is the second largest minority in the state and resides in 18 pueblos and 5 reservations. A major concentration of this population is in the northwest part of the state and lacks of employment opportunities. Recent efforts to attract industry to this area have shown a degree of success and limited location of private industry on Indian land has proven satisfactory to both employers and Indians. Employers have found them to be highly trainable, willing and competent workers. Language differences exist not only between the Indian and the off-reservation culture, but also between tribes themselves. This linguistic disparity creates communication problems that have adverse influence on employment.

III. SAMPLE

The total number tested for this study included 145 high school graduating seniors and 438 adult persons entering or seeking entry into the labor market. Most of the sample is comprised of people living within or nearby the government reservation and the pueblo. Included in the study are high school seniors and adults from Acoma, Cochiti, Laguna, San Felipe, Santa Ana, Santo Domingo, and Zuni Pueblos and adults seeking employment from the Navajo Reservation in the northern part of the state.

IV. RESEARCH SUMMARY

Two all pueblo high school graduating classes and seven all pueblo adult groups seeking employment plus one all reservation adult group entering the labor market were tested with the GATB B-1002-A in this study.

Considering that many Indians in this state are bi-lingual or tri-lingual, speaking English, Spanish and Indian, it becomes evident that English is not usually the primary language. In reviewing the results of this study this fact becomes more evident from the patterns of OAP's established. All of the groups analyzed here show a tendency or pattern

to score low on the G, V, N factors of the GATB and a very small percentage of the group met the minimum scores for OAP's 1 through 8. This can be seen also in OAP 23 and OAP 36 which call for high scores on N and G factors respectively.

Since the GATB was standardized in the English language in this case it seems to fail to measure the group's G, V, N factors and measures more adequately only those potentials that can be expressed without the use of read or written expression. This point can be further illustrated by comparing the G, V, N scores in the high school groups with the G, V, N scores in the adult groups. The high school group scores on G, V, N are approximately ½ SD above the adult non-high school graduate groups.

Below are portrayed the ranges, means and standard deviations of a composite (N=583) of the groups tested.

GATB APTITUDE	RANGE	MEAN	SD. DEV.
Age	16-55	23.55	6.318
Education	6-14	11.03	1.552
G - Intelligence	21-125	83.30	12.443
V - Verbal Ability	61-135	83.15	10.813
N - Numerical Ability	24-130	81.39	15.772
S - Spatial Perception	43-140	98.16	16.050
P - Form Perception	24-150	100.84	18.499

GATB APTITUDE	RANGE	MEAN	SD. DEV.
Q - Clerical Ability	56-142	99.20	14.595
K - Motor Coordination	24-155	103.98	17.482
F - Finger Dexterity	31-167	96.57	18.106
M - Manual Coordination	37-170	100.24	20.372

The high ranges in the scores of the study indicate a capacity or potential within the group for meeting the minimum scores for all but the first of the 36 OAP's. The low ranges also show less than a minimum need for any of the OAP's. From this we can assume that within the group we have potentials for most occupations included in the OAP structure.

The highest factor elicited in the GATB for the entire group is K with a mean of 103.98. This is above the mean of the general working population. The lowest mean factor found is N with a score of 81.39, approximately one standard deviation below the mean. The S, P, Q, K, F, and M are all near the mean of the working population. The G, V, and N are all located approximately one standard deviation below the mean.

It is interesting to note the similarity in all the profile graphs considering that they are of different ages, come from different pueblos, and include Indians living on government reservations.

Included in this survey are histograms showing individual Indian groups occupational aptitude patterns established and also psychographs showing individual Indian groups scores, means and ranges on the GATB. The charted means, standard deviations and ranges are also made separately for male and female and then profiled for the composite.

History of General Aptitude Battery

The USES General Aptitude Test Battery was published in 1947 in order to meet the need for helping the individual to appraise his occupational potentialities in terms of a wide range of occupations. Several revisions and extensive research have resulted in a vast amount of standardized data, so it is now widely regarded as one of the best aptitude test batteries for use in vocational guidance.

The GATB was standardized on a general working population of approximately 4,000 people. An aptitude score of 100 is average for the general working population, and the standard deviation of the distribution of scores for each aptitude is 20.

The research conducted was directed toward 3 primary objectives. These objectives, and methods by which they are accomplished are as follows:

A. Determining aptitude requirements (norms) for each of a large number of occupations important in the economy. This is done by conducting test development studies on specific occupations.

B. Insuring that the norms for specific occupations will be adequately representative. This is done by

consolidating data from test development studies conducted in the same job in different localities.

C. Establishing an occupational aptitude pattern (OAP) structure for use in the counseling process. This is done by grouping occupations into families on the basis of similarity of aptitude requirements as determined from studies on specific occupations and establishing OAP norms for these occupational families. The research and development was all conducted in the English language and today the battery employed by the United States Employment Service is this same battery standardized in English.

Included in this study are definitions of aptitudes measured by the GATB, and Occupational Aptitude Pattern structure. The list of work fields and occupations within each field are shown in the structure.

DEFINITION OF APTITUDES

MEASURED BY GATB

The nine aptitudes measured by this Battery are: (The letter preceding each aptitude indicates the letter used to identify the aptitude.)

G--INTELLIGENCE--General Learning Ability. The ability to "catch on" or understand instructions and underlying principles; the ability to reason and make judgements. Closely related to doing well in school.

V--VERBAL APTITUDE--The ability to understand meaning of words and ideas associated with them and to use them effectively. The ability to comprehend language, to understand relationships between words, and to understand meaning of whole sentences and paragraphs. The ability to present information or ideas clearly.

N--NUMERICAL APTITUDE--Ability to perform arithmetic operations quickly and accurately.

S--SPATIAL APTITUDE --Ability to comprehend forms in space and understand relationships of plane and solid objects. May be used in such tasks as blueprint reading and in

solving geometry problems. Frequently described as the ability to "visualize" objects of two or three dimensions, or to think visually of geometric forms.

P--FORM PERCEPTION--Ability to perceive pertinent detail in objects or in pictorial or graphic material. Ability to make visual comparisons and discriminations and to see slight differences in shapes and shadings of figures and widths and lengths of lines.

Q--CIERICAL PERCEPTION--Ability to perceive pertinent detail in verbal or tabular material. Ability to observe differences in copy, to proofread words and number, and to avoid perceptual errors in arithmetic computation.

K--MOTOR COORDINATION--Ability to coordinate eyes and hands or fingers rapidly and accurately in making precise movements with speed. Ability to make a movement response accurately and swiftly. Probably related to reaction time.

F--FINGER DEXTERITY--Ability to move fingers, and to manipulate small objects with the fingers, rapidly and accurately.

M--MANUAL DEXTERITY--Ability to move the hands easily and skillfully. Ability to work with the hands in placing and turning motions.

GATB Occupational Aptitude PATTERNS (OAP) Structure

Occupational norms are made in terms of a structure consisting of a series of occupational aptitude patterns (OAP). Each OAP consists of the most significant aptitudes and the critical scores on these aptitudes established as minimum scores for a group of occupations having similar aptitude requirements. Over 753 occupations have been included in the occupational aptitude pattern structures and designated by 36 OAP's.

Below is a list of work fields and occupations that fall into the occupational aptitude structures 1 through 36. These patterns relate to the aptitudes required for success in the field of work or occupations listed under each.

OAP's AND RELATED OCCUPATIONS

OAP - 1. ENGINEERING, MATHEMATICS, MEDICINE
Chemical, Civil, Electrical and Mechanical Engineers; Physician; Programmer

OAP - 2. PHARMACY, BUSINESS RELATIONS WORK
Pharmacist, Accountant, Statistician; Underwriter

OAP - 3. TEACHING, SOCIAL SERVICE, HOME ECONOMICS
Grade or High School Teacher; Case or Group Worker; Employment Interviewer; Dietitian; Home Economist, Embalmer

OAP - 4. MANAGERIAL WORK
Manager, Sales, Librarian; Manager Circulation, Buyer

OAP - 5. HEALTH OCCUPATIONS
Dental Hygienist, Electrotherapist, Paste-Up Man, Photographer, Lithographic

OAP - 6. INSTRUCTIVE SERVICE, CLERICAL WORK
Kindergarten Teacher; File Clerk; Adjustment Clerk; Psychiatric Technician

OAP - 7. GENERAL RECORDING
Accounting Clerk; Bookkeeper

OAP - 8. LABORATORY SCIENCE
Chemist Assistant; Radiological Technologist, Physical Therapist

OAP - 9. MATERIAL CHECKING, RECORDING PUBLIC CONTACT WORK
Grocery Checker; Tabulation Machine Operator; Key Punch Operator; Receptionist, Tourist Camp Attendant, Salesperson, General

OAP - 10. PROTECTIVE SERVICE, MECHANICAL REPAIRING, PRINTING, CRAFTS, STRUCTURAL WORK, FOOD PREPARATION
Fireman, Refrigeration Mech.; Printing Pressman (various kinds); Cabinet Maker; Layout Man; Truck Body Builder, Cook (various kinds)

OAP - 11. MECHANICAL REPAIRING, GRAPHIC ART WORK
Mechanic; Auto Tractor, Trucks; Auto Radiator Man; Electrotyper; Stero-Typer.

OAP - 12. MANAGERIAL, SALES, BENCHWORK
Manager (various kinds); Commissary Man, Wireman, Cable Maker

OAP - 13. GENERAL RECORDING, PRINTING WORK
General Office Clerk; Cost Clerk, Inventory Clerk, Posting Clerk

OAP - 14. FOOD SERVICE, STRUCTURAL CRAFTS
Waitress; Bricklayer, Tile Setter

OAP - 15. ARTISTIC DESIGNING: STRUCTURAL CRAFTS
Clothes Designer; Hat Designer;
Structural Steel Lay-Out Man, Copyist

OAP - 16. BENCH CRAFTS: STRUCTURAL CRAFTS
Sheet Metal Worker; Coppersmith

OAP - 17. PROCESSING, BENCH WORK
Purification Operator; Coil
Assembler, Unit-Assembler

OAP - 18. MACHINE TENDING
Truck Operator; Tier-Lift, Gasoline,
Fork Lift

OAP - 19. EQUIPMENT AND MATERIAL CHECKING, TRUCK DRIVING
Order Clerk; Petroleum Transport
Driver; Trailer-Truck Driver

OAP - 20. MECHANICAL AND ELECTRICAL REPAIRING STRUCTURAL WORK
Millwright; Mechanic; Const. Equip. Laundry
Machine, Maint. Hydroelectric Machinery,
Airplane Electrician; Plumber; Pipe Fitter.

OAP - 21. COSMETOLOGY, HAIR STYLING, TELEPHONE WORK
Beauty Operator, Hair Stylist, Telephone
Operator

OAP - 22. CRAFTS, BENCH WORK
Assembling; Aircraft, Auto.; Machine
Operator; Woodworking, General

OAP - 23. COMPUTING WORK, MACHINE
Calculating Machine Operator;
Bookkeeping Machine Operator

OAP - 24. ELECTRICAL REPAIRING
Electrician; Repairman, Radio,
Television

OAP - 25. MACHINING, STRUCTURAL WORK
Machinist; Carpenter; Linoleum Layer;
Carpet Layer, Painter

OAP - 26. DRESSMAKING, TAILORING
Dressmaker, Tailor (Alteration)

OAP - 27. ELECTRICAL WORK, WELDING
Power-Plant Attendant; Substation Operator; Welder; Arc, Acetylene, Combination, Atomic, Oxyhydrogen

OAP - 28. MACHINING, MACHINE TENDING
Engine-Lathe Operator; Twist and Ply Operator

OAP - 29. STRUCTURAL CRAFTS, INSPECTING AND TESTING
Solderer, Torch; Cloth Examiner Hand

OAP - 30. GRAPHIC ART WORK, MACHINE OPERATING
Photostat Operator, Projection Printer, Multiple-Photographic Printer Operator, Brick Molding Machine Operator

OAP - 31. FOOD SERVING, OFFICE MACHINE REPAIRING, BOOK BINDING
Counterman, Lunch Room; Pantryman; Serviceman; Calculating Machine, Cash Register, Duplicating Machine; Bindry Workers

OAP - 32. SORTING, PACKING, MACHINE OPERATOR
Fruit Sorter; Packer, Apple, Cherry; Peeling-and-Coring Machine Operator; Sewing Machine Operator; Mounting Operator (color slides); Candy-Wrapping Machine Operator

OAP - 33. BENCHWORK
Assembler (electronics), crystal-unit assembler; Merchandise Packer

OAP - 34. MACHINE TENDING, BENCH WORK
Percussive Operator; Welder Filament, Light-Bulb Assembler, Odometer Assembler

OAP - 35. UPHOLSTERING AND FURNITURE REPAIRING, CANNERY OCCUPATIONS, MEAT PACKING
Upholsterer; Furniture Repairman; Food Sorter; Packer, Sausage, Sliced Bacon; Cheese Wrapper and Packer; Hand Presser; Silk Finisher; Cannyer Workers

OAP - 36. TYPING, STENOGRAPHIC WORK, GRAPHIC ART WORK
Typist, Clerk typist, Typewriter Operator, Automatic, Secretary, Stenographer, Typesetter-Perforator Operator, Composition, Hand and Machine

Research and Descriptive Narrative

A pattern of score and aptitude consistency is evident from the results of the GATB as indicated on graphs 1-A through 11-A. All ten groups (N=583) scored higher on the S, P, Q, K, and M factors than on the other factors. All but two groups achieved their highest mean score on factor M.

The composite pattern, as indicated on graph 11-A, reveals an insignificant difference between mean scores for factors G and V, and a slight decline in mean scores for factor N. The composite group then records a significant increase in the next factor (S) mean scores. Generally, factor P mean scores are slightly greater than those for S. Factor K and M means are higher than all others. The mean for factor K is 103.98 and for factor M is 108.24.

Chart 9-C, a breakdown of the study (N=583) into a male and female group, indicates similar patterns to those in the individual group profiles. Mean scores for females are all higher than male scores except for factor S. Ranges in the male and female scores, education, and sex are similar.

The most frequent OAP's established by the group were OAP 22 and OAP's 28 through 35. The least frequent OAP's established included OAF 1 through 13 and OAP 36. The 2 high school senior groups achieved generally higher score profiles than the non-high school groups.

Listed are the percentage of people tested in this study (N=583) who met the minimum scores for each corresponding OAP pattern, as shown by the histograph profiles for the combined population tested in this study.

4.4 %	OAP - 0 (none)		
4.0 %	OAP - 1	44.9 %	OAP - 19
.3 %	OAP - 2	48.0 %	OAP - 20
1.3 %	OAP - 3	50.9 %	OAP - 21
2.5 %	OAP - 4	62.0 %	OAP - 22
4.2 %	OAP - 5	14.9 %	OAP - 23
3.2 %	OAP - 6	29.8 %	OAP - 24
6.6 %	OAP - 7	41.6 %	OAP - 25
8.2 %	OAP - 8	53.3 %	OAP - 26
15.0 %	OAP - 9	58.1 %	OAP - 27
15.7 %	OAP - 10	83.1 %	OAP - 28
16.9 %	OAP - 11	62.9 %	OAP - 29
13.2 %	OAP - 12	62.7 %	OAP - 30
14.7 %	OAP - 13	78.3 %	OAP - 31
18.5 %	OAP - 14	77.0 %	OAP - 32
23.4 %	OAP - 15	62.0 %	OAP - 33
28.3 %	OAP - 16	70.4 %	OAP - 34
40.8 %	OAP - 17	72.7 %	OAP - 35
48.7 %	OAP - 18	4.8 %	OAP - 36

Age M=23.55
Educ M= 6.32
N=583

Means, Standard Deviations and Ranges For New Mexico Indian Groups Tested For This Study

	Age		Educ.		G		V		N		S		P	
	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Laguna-Acoma H.S. Seniors n=82	18.21	.924	11.98	.109	88.70	11.052	86.48	10.525	87.24	15.471	107.21	15.176	105.80	14.347
Zuni Pueblo H.S. Seniors N=63	18.01	1.015	12.00	.0	91.15	12.580	89.74	11.795	94.14	13.195	98.52	15.407	106.58	16.057
Laguna Pueblo Adult Group N=63	23.93	10.570	10.85	3.519	88.57	15.062	89.83	14.907	83.98	18.543	102.73	16.080	106.33	16.871
Acoma Pueblo Adult Group N=62	30.50	7.398	10.50	1.838	80.10	11.532	80.70	9.850	75.80	14.774	97.40	14.934	94.20	20.045
Zuni Pueblo Adult Group N=73	21.18	6.275	10.97	1.570	81.59	12.667	80.52	9.331	78.07	16.625	95.79	16.877	100.53	17.100
Ship Rock Navajo Adult Group N=81	21.85	3.877	10.18	1.772	75.82	13.328	76.35	11.910	73.24	15.929	96.97	16.062	103.23	20.611
Cochiti Pueblo Adult Group N=27	28.96	10.259	11.00	2.407	86.15	16.845	86.33	12.107	87.00	18.423	89.52	20.024	99.63	19.402
San Felipe Adult Group N=65	23.17	9.215	10.24	2.061	76.50	12.742	77.20	8.383	73.03	18.610	93.95	16.92	93.38	23.233
Santa Ana Pueblo Adult Group N=11	22.63	6.545	11.82	.636	85.82	6.925	86.00	10.753	83.09	10.899	102.73	12.571	97.45	16.675
Santo Domingo Adult Group N=65	25.08	7.098	10.789	1.617	78.68	11.704	78.380	8.479	78.352	15.254	96.859	16.352	101.437	20.641
Profile For Combined N.M. Indian Population Sample	23.55	6.318	11.03	1.552	83.32	12.443	83.153	10.813	81.394	15.772	98.167	16.050	100.846	18.499
Group Mean And Standard Deviation Ranges	18.01 to 30.50	.924 to 10.570	10.18 to 12.00	.0 to 3.519	75.82 to 91.15	6.925 to 16.845	76.35 to 89.83	8.383 to 14.977	73.03 to 94.14	10.899 to 18.610	89.52 to 107.21	12.671 to 20.024	93.38 to 105.80	14.347 to 23.233
Age-Score and Education Ranges														

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N		S		P		Q		K		F		M		
	SD	M	SD	M	SD	M	SD	M	SD	M	SD	M	SD	Educ Grade Range
.24	15.471	107.21	15.176	105.80	14.347	96.97	10.476	110.12	23.860	99.09	18.978	111.39	23.808	11-12
.14	13.195	98.52	15.407	106.58	16.057	106.07	13.764	107.74	14.925	101.14	18.230	105.13	18.219	12
.98	18.543	102.73	16.080	106.33	16.871	108.95	13.269	105.95	18.553	99.04	17.847	121.35	22.806	8-14
.80	14.774	97.40	14.934	94.20	20,045	92.30	23.450	99.80	18.430	89.80	20.940	103.10	22.054	7-12
.07	16.625	95.79	16.877	100.53	17.100	97.18	13.755	100.26	16.577	96.07	16.825	116.19	16.246	7-14
.24	15.929	96.97	16.062	103.23	20.613	99.55	15.588	105.76	18.885	104.49	18.733	118.17	17.329	7-12
.00	18.423	89.52	20.024	99.63	19.402	93.74	17.779	102.22	16.793	100.67	19.173	103.15	26.851	7-14
.03	18.610	93.95	16.92	93.38	23.237	91.32	14.899	96.94	19.668	87.01	19.180	100.85	18.968	6-13
.09	10.899	102.73	12.571	97.45	16.675	103.18	11.002	106.27	12.749	91.45	9.632	99.45	18.317	10-13
.352	15.254	96.859	16.352	101.437	20.647	97.788	11.971	104.803	14.380	96.972	20.972	108.704	19.127	6-14
894	15.772	98.167	16.050	100.846	18.499	99.205	14.595	108.986	17.482	96.573	18.510	108.248	20.373	
03 to .14	10.899 to 18.610	89.52 to 107.21	12.671 to 20.024	93.38 to 105.80	14.347 to 23.237	91.32 to 108.95	10.476 to 17.779	96.94 to 110.12	12.749 to 23.860	87.01 to 104.49	9.632 to 20.972	99.45 to 121.35	16.246 to 26.851	

Graphs lettered "A" depict the ranges and means of each GATB factor for the seperate groups in the study.

The "B" tables indicate the ranges, means and standard deviations of GATB factors, age and education for each Indian group.

The discrepancy within each group between male and female means and ranges of GATB factors is illustrated in graphs "C". This dual graph is not necessary for the all female Shiprock group.

Tables lettered "D" and "E" present the ranges, means and standard deviations of the GATB factors for males and females respectively in each group.

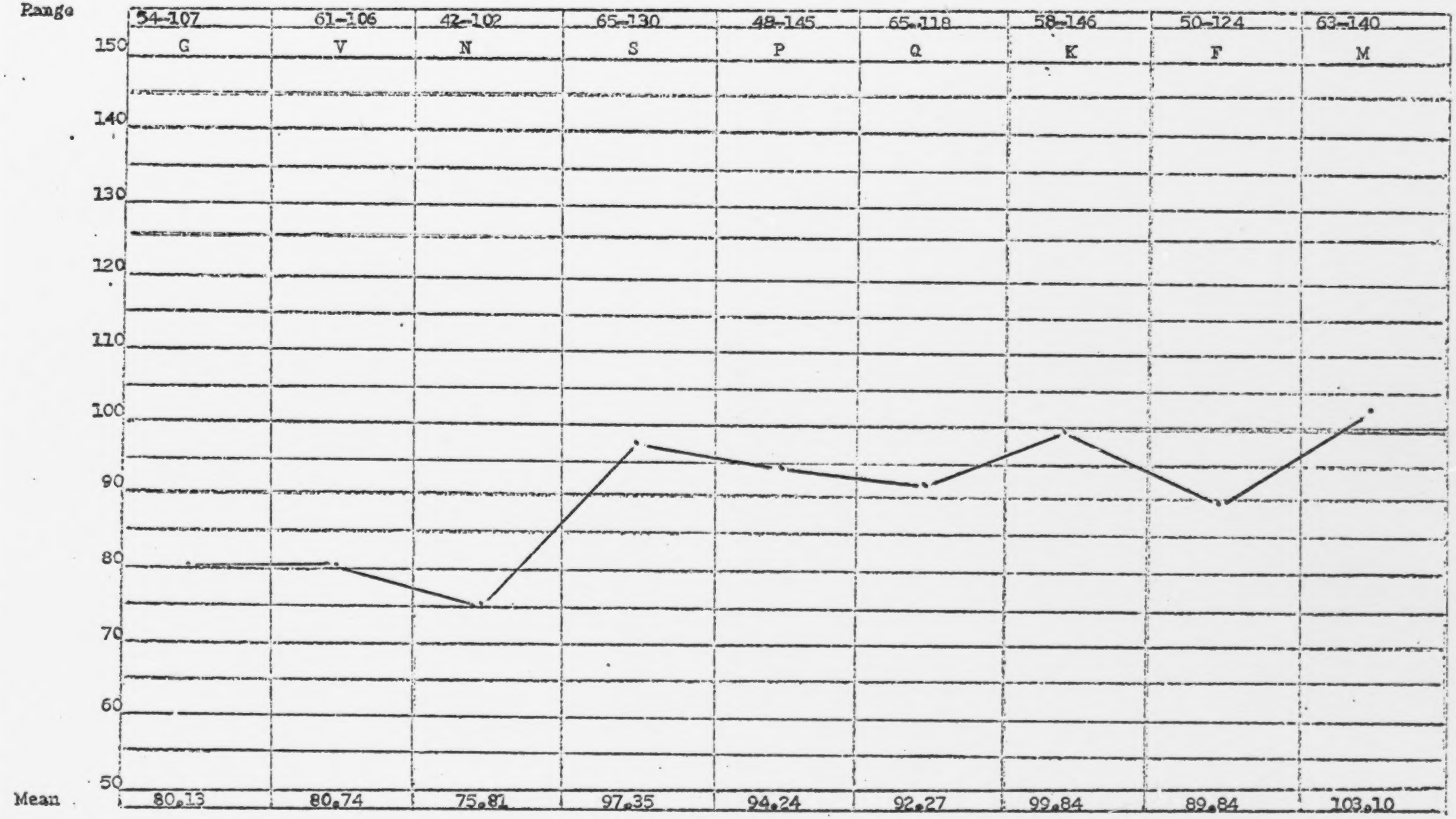
The "F" charts are OAP Histograms for each group. The profiles show the percentile and number of individuals who have met the minimum scores for corresponding OAP's. Significant factors for each pattern are identified at the base of the histogram.

The "G" tables indicate the percentage in each group qualifying for particular OAP's.

N =62
Age M=30.48
Educ M=10.51
Male=16
Female=46

Acoma Pueblo Adult Group

Graph 1-A



Acoma Pueblo Adult Group

N=62 Table 1-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-55	30.50	7.398
EDUCATION	4-12	10.50	1.838
G - Intelligence	54-107	80.10	11.532
V - Verbal Ability	51-106	80.70	9.850
N - Numerical Ability	38-102	75.80	14.774
S - Spatial Perception	65-124	97.40	14.934
P - Form Perception	30-145	94.20	20.045
Q - Clerical Ability	65-118	92.30	23.450
K - Motor Coordination	58-149	99.80	18.430
F - Finger Dexterity	39-167	89.80	20.940
M - Manual Coordination	47-164	103.10	22.054

N=62

Acoma Pueblo Adult Group

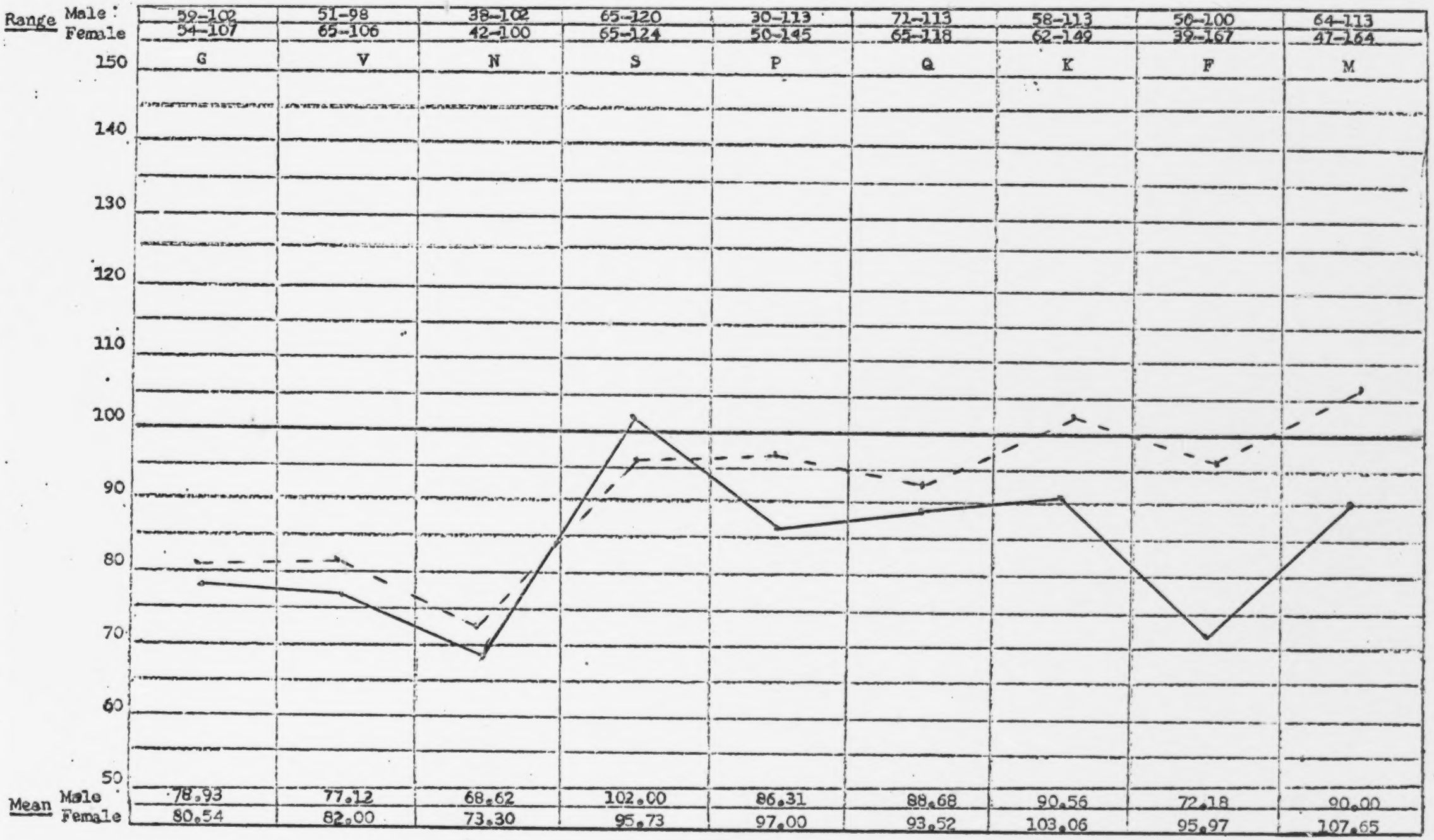
Graph 1-C

Male
Age M=30.62
Educ M=9.87
N=16

Female
Age M=30.41
Educ M=10.93
N=46

Male _____

Female - - - - - -



Range		G	V	N	S	P	Q	K	F	M
	Male	59-102	51-98	38-102	65-120	30-113	71-113	58-113	50-100	64-113
	Female	54-107	65-106	42-100	65-124	50-145	65-118	62-149	39-167	47-164
Mean	Male	78.93	77.12	68.62	102.00	86.31	88.68	90.56	72.18	90.00
	Female	80.54	82.00	73.30	95.73	97.00	93.52	103.06	95.97	107.65

Acoma Male Group

N=16 Table 1-)

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	19-48	30.62	7.423
EDUCATION	7-12	9.87	2.496
G - Intelligence	59-102	78.93	11.098
V - Verbal Ability	51-98	77.12	9.299
N - Numerical Ability	38-102	68.62	14.986
S - Spatial Perception	65-102	102.00	14.022
P - Form Perception	30-113	86.31	21.965
Q - Clerical Ability	71-113	88.68	10.884
K - Motor Coordination	58-113	90.56	21.965
F - Finger Dexterity	50-100	72.18	14.689
M - Manual Coordination	64-113	90.00	13.784

Acoma Female Group

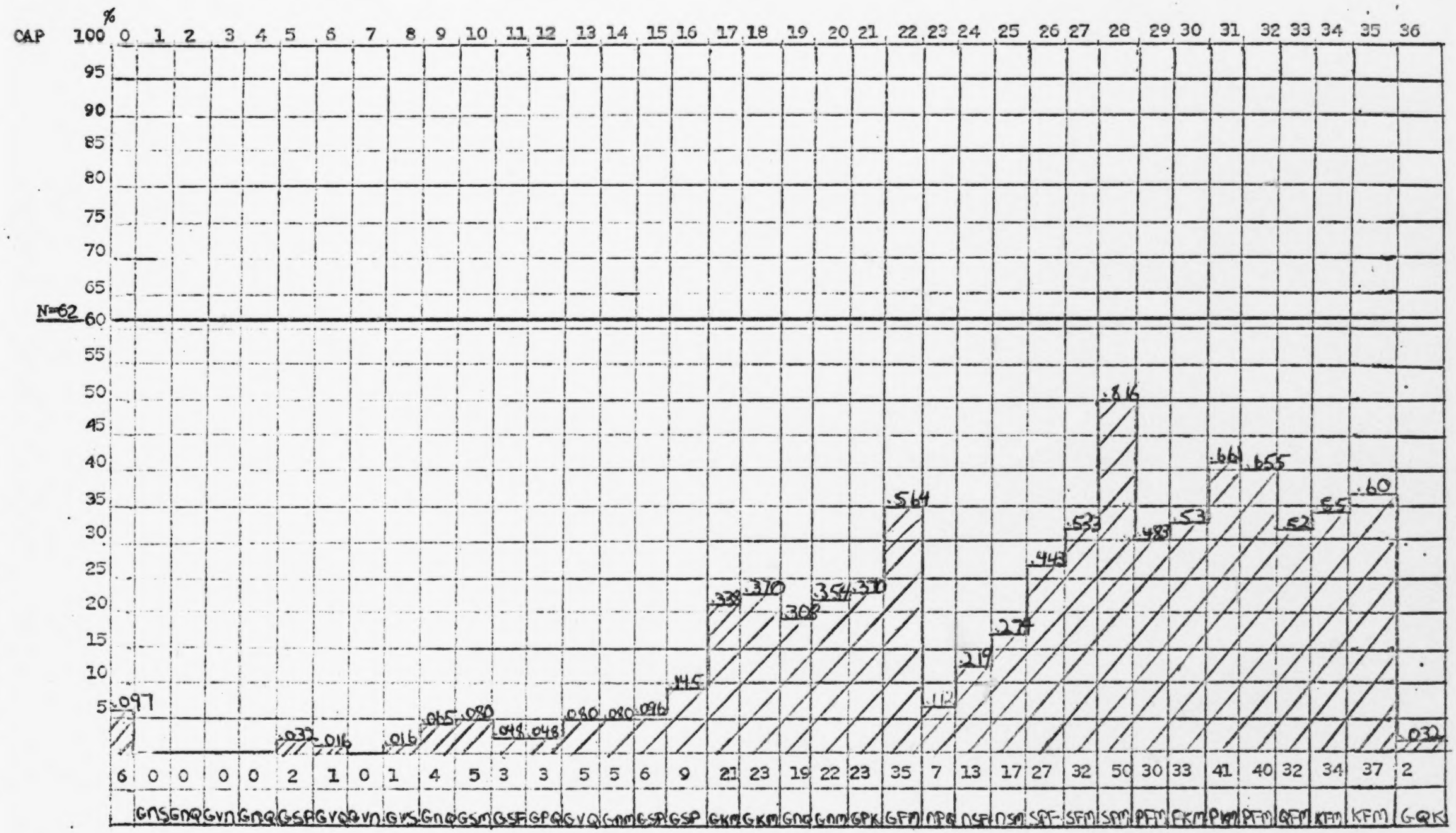
N=46 Table 1-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-55	30.41	11.823
EDUCATION	6-13	10.93	1.548
G - Intelligence	54-107	80.54	11.670
V - Verbal Ability	65-106	82.00	9.724
N - Numerical Ability	42-100	73.30	13.867
S - Spatial Perception	65-124	95.73	14.903
P - Form Perception	50-145	97.00	18.554
Q - Clerical Ability	65-118	93.52	12.344
K - Motor Coordination	62-149	103.06	18.329
F - Finger Dexterity	39-167	95.97	19.428
M - Manual Coordination	47-164	107.65	22.563

Acoma Pueblo Adult Group
O.A.P. Patterns

Chart 1-F

N=62
Age M=30.48
Educ M=10.51
Male=16
Female=46



Acoma Pueblo Adult Group

OAP Percentages

N=62 Table 1-G

9.7 %	OAP - 0 (none)	30.0 %	OAP - 19
.0 %	OAP - 1	35.4 %	OAP - 20
.0 %	OAP - 2	37.0 %	OAP - 21
.0 %	OAP - 3	56.4 %	OAP - 22
.0 %	OAP - 4	11.2 %	OAP - 23
3.2 %	OAP - 5	21.9 %	OAP - 24
1.6 %	OAP - 6	27.4 %	OAP - 25
.0 %	OAP - 7	44.3 %	OAP - 26
1.6 %	OAP - 8	52.0 %	OAP - 27
6.5 %	OAP - 9	81.6 %	OAP - 28
8.0 %	OAP - 10	48.3 %	OAP - 29
4.8 %	OAP - 11	53.0 %	OAP - 30
4.8 %	OAP - 12	66.1 %	OAP - 31
8.0 %	OAP - 13	65.5 %	OAP - 32
8.0 %	OAP - 14	52.0 %	OAP - 33
9.6 %	OAP - 15	55.0 %	OAP - 34
14.5 %	OAP - 16	60.0 %	OAP - 35
33.8 %	OAP - 17	3.2 %	OAP - 36
37.0 %	OAP - 18		

N =27
Age M=28.9
Educ M=11.0
Age Range=16-45
Educ Range 2-14

Cochiti Pueblo

Graph 2-A

Range	50-112	72-115	40-126	43-127	63-144	56-127	55-128	71-141	46-148
150	G	V	N	S	P	Q	K	F	M
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	86.15	86.33	87.0	89.52	99.63	98.74	102.22	100.67	103.15

Cochiti Pueblo Adult Group

N=27 Table 2-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-49	28.96	10.259
EDUCATION	7-14	11.00	2.407
G - Intelligence	50-112	86.15	16.845
V - Verbal Ability	68-115	86.33	12.107
N - Numerical Ability	52-126	87.00	18.423
S - Spatial Perception	43-127	89.52	20.024
P - Form Perception	63-144	99.63	19.402
Q - Clerical Ability	56-127	98.74	17.779
K - Motor Coordination	74-128	102.22	16.793
F - Finger Dexterity	73-129	100.67	19.173
M - Manual Coordination	46-148	103.15	26.851

N=27

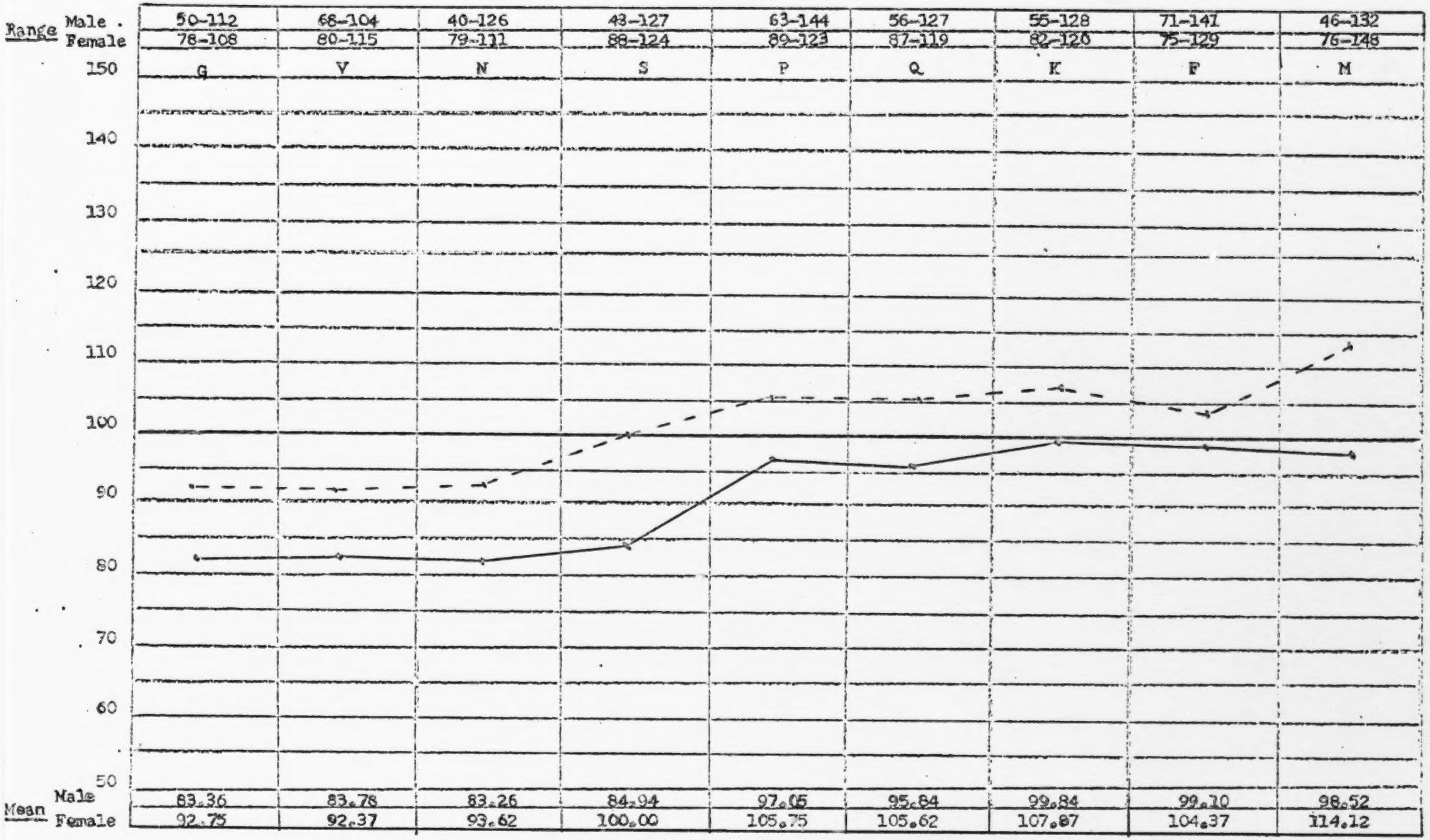
Male
N=19
Age M=32.36
Educ. M=10.78

Female
N=8
Age M=20.87
Educ M=12.37

Cochiti

Graph 2-C
Male ————
Female - - - - - -

		G	V	N	S	P	Q	K	F	M
Range	Male	50-112	68-104	40-126	48-127	63-144	56-127	55-128	71-141	46-132
	Female	78-108	80-115	79-111	88-124	89-123	87-119	82-120	75-129	76-148
Mean	Male	83.36	83.78	83.26	84.94	97.05	95.84	99.84	99.10	98.52
	Female	92.75	92.37	93.62	100.00	105.75	105.62	107.87	104.37	114.12



Cochiti Male Group

N=19 Table 2-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-50	32.36	10.362
EDUCATION	7-14	10.78	1.907
G - Intelligence	50-112	83.36	18.533
V - Verbal Ability	68-104	83.78	11.784
N - Numerical Ability	40-126	83.26	12.000
S - Spatial Perception	43-127	84.94	17.111
P - Form Perception	63-144	97.05	21.293
Q - Clerical Ability	56-127	95.84	19.342
K - Motor Coordination	55-128	99.84	18.160
F - Finger Dexterity	71-141	99.10	20.128
M - Manual Coordination	46-132	98.52	26.346

Cochiti Female Group

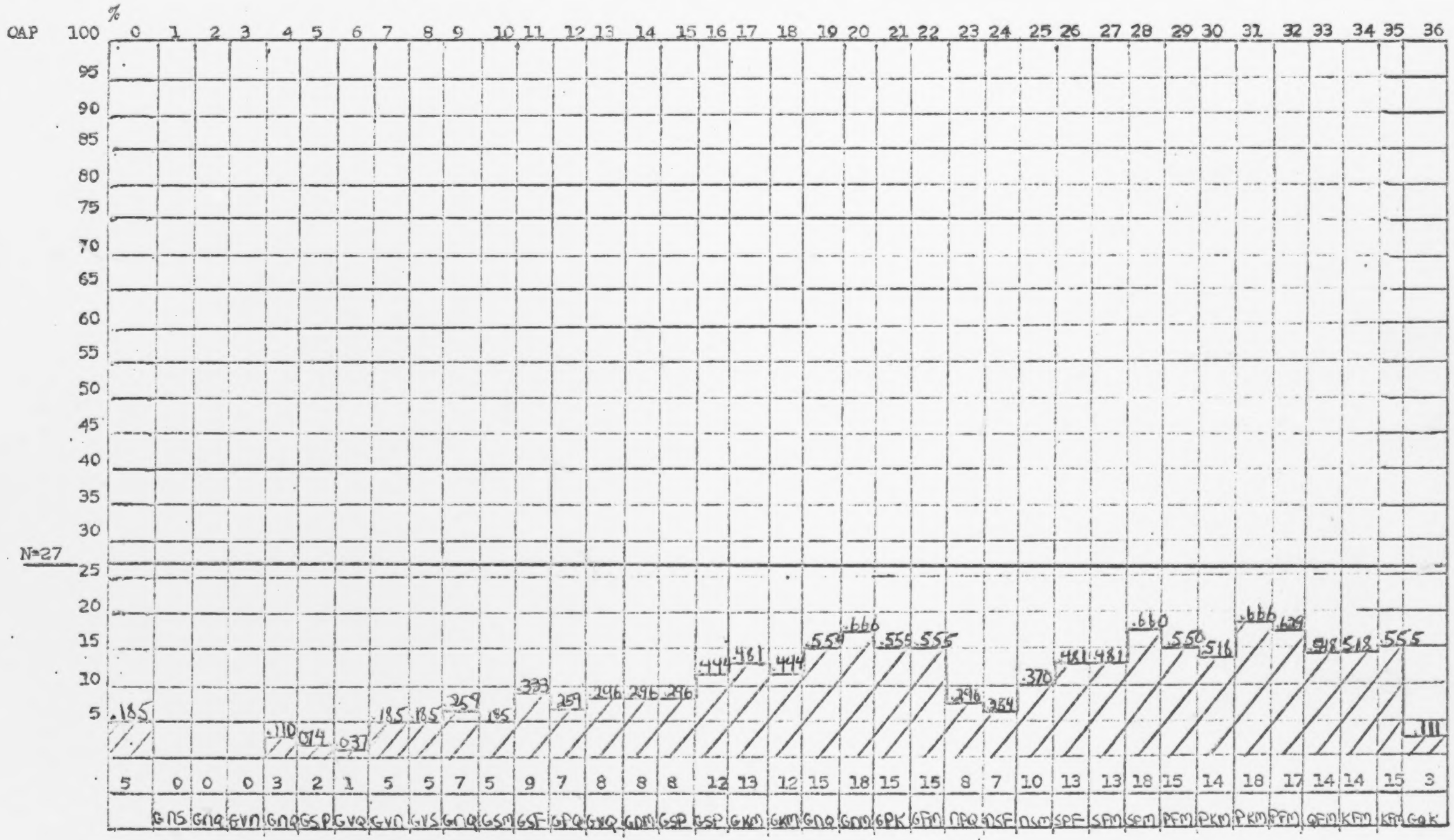
N=8 Table 2-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-27	20.87	2.712
EDUCATION	12-14	12.37	.695
G - Intelligence	78-108	92.75	8.940
V - Verbal Ability	80-115	92.37	10.629
N - Numerical Ability	79-111	93.62	9.577
S - Spatial Perception	88-124	100.00	12.195
P - Form Perception	89-123	105.75	11.850
Q - Clerical Ability	87-119	105.62	10.534
K - Motor Coordination	82-120	107.87	11.095
F - Finger Dexterity	75-129	104.37	21.997
M - Manual Coordination	76-148	114.12	24.787

N=27
Age M=28.9
Educ M=11.0

Cochiti Pueblo Adult Group
O.A.P. Patterns

Chart 2-F



Cochiti Pueblo Adult Group

OAP Percentages

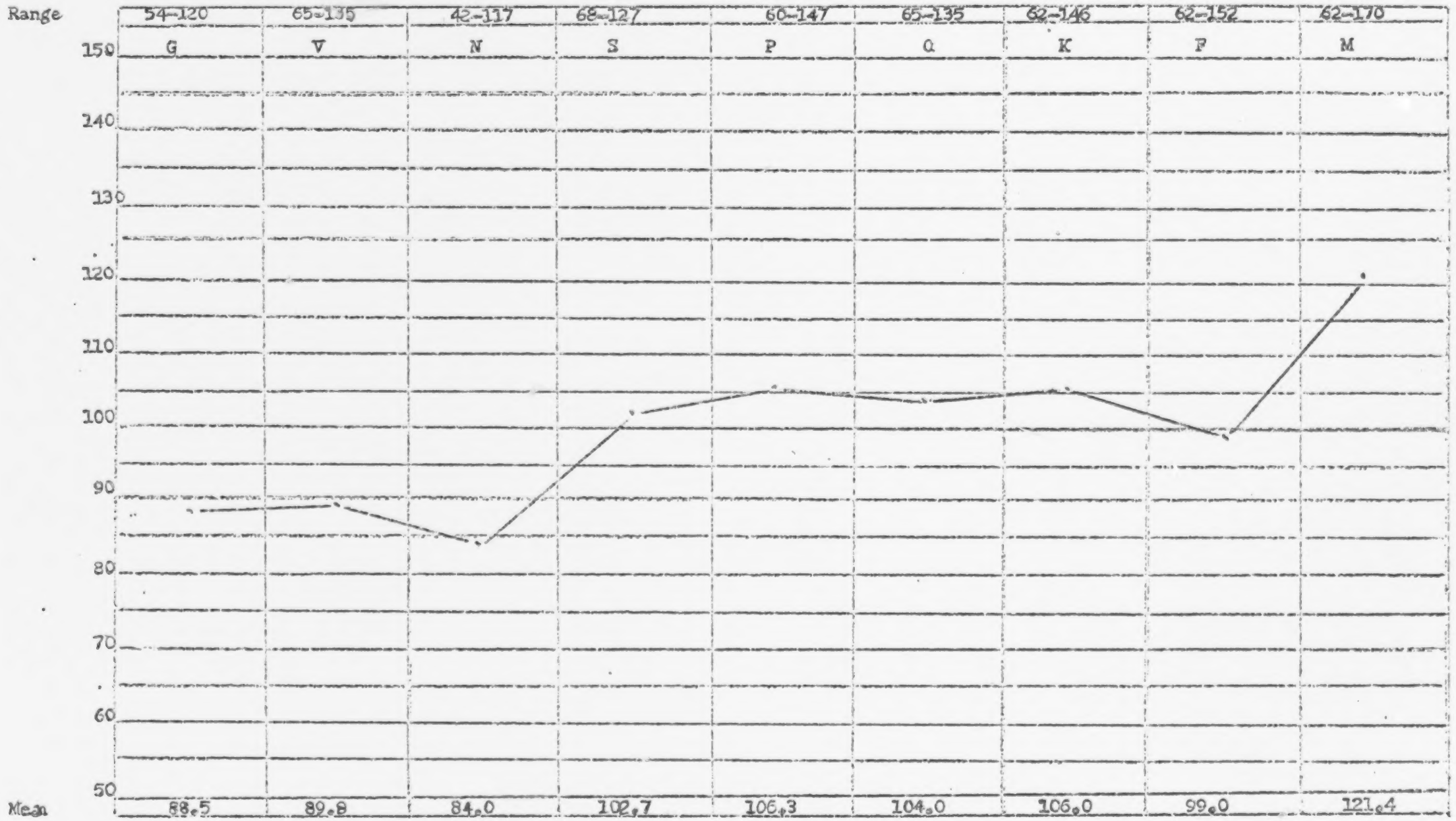
N=27 Table 2-G

18.5 %	OAP - 0 (none)	55.5 %	OAP - 19
.0 %	OAP - 1	66.6 %	OAP - 20
.0 %	OAP - 2	55.5 %	OAP - 21
.0 %	OAP - 3	55.5 %	OAP - 22
11.0 %	OAP - 4	29.6 %	OAP - 23
7.4 %	OAP - 5	25.9 %	OAP - 24
3.7 %	OAP - 6	37.0 %	OAP - 25
18.5 %	OAP - 7	48.1 %	OAP - 26
18.5 %	OAP - 8	48.1 %	OAP - 27
25.9 %	OAP - 9	66.0 %	OAP - 28
18.5 %	OAP - 10	55.0 %	OAP - 29
33.3 %	OAP - 11	51.8 %	OAP - 30
25.9 %	OAP - 12	66.6 %	OAP - 31
29.6 %	OAP - 13	62.9 %	OAP - 32
29.6 %	OAP - 14	51.8 %	OAP - 33
29.6 %	OAP - 15	51.8 %	OAP - 34
44.4 %	OAP - 16	55.5 %	OAP - 35
48.1 %	OAP - 17	11.1 %	OAP - 36
44.4 %	OAP - 18		

N=48
Age M=27.4
Educ M=10.8

Laguna Pueblo Adult Group

Graph 3-A



Laguna Pueblo Adult Group

N=63 Table 3-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-48	23.93	10.570
EDUCATION	8-12	10.85	3.519
G - Intelligence	54-120	88.57	15.062
V - Verbal Ability	65-135	89.83	14.997
N - Numerical Ability	46-117	83.98	18.543
S - Spatial Perception	68-130	102.73	16.080
P - Form Perception	60-147	106.33	16.871
Q - Clerical Ability	85-141	108.95	13.269
K - Motor Coordination	62-136	105.95	18.553
F - Finger Dexterity	62-152	99.04	17.847
M - Manual Coordination	62-170	121.35	22.806

N=48

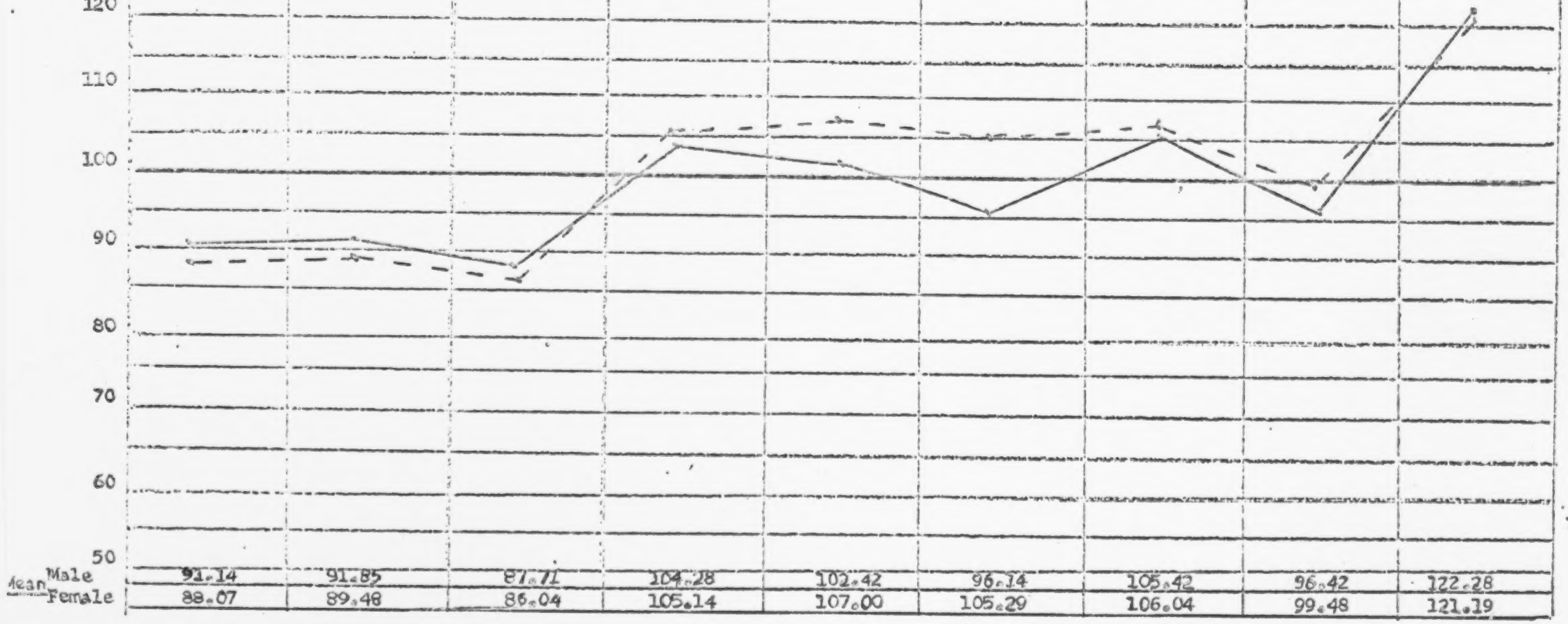
Male N=7
Age M=27.31
Educ M=11.42

Female N=41
Age M=27.57
Educ M=10.75

Laguna Pueblo Adult Group

Graph 3-C
Male _____
Female — — — —

		G	V	N	S	P	Q	K	F	M
Range	Male	81-120	68-135	42-111	84-127	70-128	65-113	76-126	75-121	62-158
	Female	61-114	65-127	46-117	68-127	60-147	85-141	62-146	62-152	79-170
Mean	Male	91.14	91.85	87.71	104.28	102.42	96.14	105.42	96.42	122.28
	Female	88.07	89.48	86.04	105.14	107.00	105.29	106.04	99.48	121.19



Laguna Male Group

N=7 Table 3-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-42	27.31	8.154
EDUCATION	10-12	10.75	3.714
G - Intelligence	81-120	91.14	14.338
V - Vêrbal Ability	68-135	91.85	20.700
N - Numerical Ability	42-111	87.71	22.004
S - Spatial Perception	84-127	104.28	14.877
P - Form Perception	70-128	102.42	17.054
Q - Clerical Ability	65-113	96.14	16.692
K - Motor Coordination	72-126	105.42	19.357
F - Finger Dexterity	75-121	96.42	15.231
M - Manual Coordination	62-158	122.28	31.833

Laguna Female Group

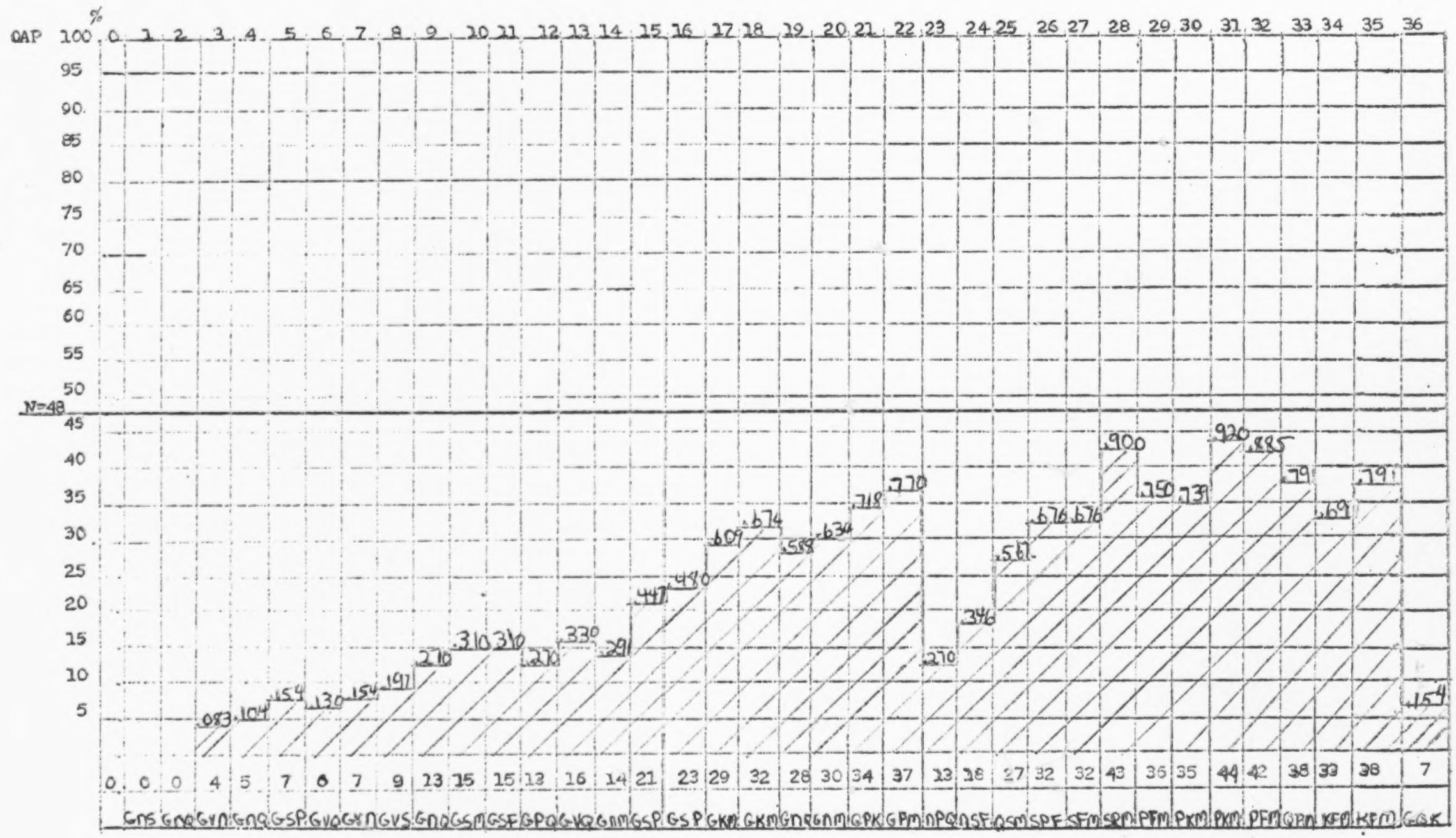
N=41 Table 3-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-55	27.57	9.863
EDUCATION	7-14	11.42	1.699
G - Intelligence	61-114	88.07	14.761
V - Verbal Ability	65-127	89.48	13.789
N - Numerical Ability	46-117	86.04	17.781
S - Spatial Perception	68-127	105.14	15.922
P - Form Perception	60-147	107.00	16.807
Q - Clerical Ability	85-141	105.29	12.456
K - Motor Coordination	62-146	106.04	18.393
F - Finger Dexterity	62-152	99.48	18.167
M - Manual Coordination	79-170	121.19	20.876

N=48
Age M=27.4
Educ M=10.8

Laguna Pueblo Adult Group
O.A.P. Patterns

Chart 3-F



Laguna Pueblo Adult Group

OAP Percentages

N=48 Table 3-G

.0 %	OAP - 0 (none)	58.3 %	OAP - 19
.0 %	OAP - 1	63.0 %	OAP - 20
.0 %	OAP - 2	71.8 %	OAP - 21
8.3 %	OAP - 3	77.0 %	OAP - 22
10.4 %	OAP - 4	27.0 %	OAP - 23
15.4 %	OAP - 5	38.0 %	OAP - 24
13.0 %	OAP - 6	56.2 %	OAP - 25
15.4 %	OAP - 7	67.6 %	OAP - 26
19.7 %	OAP - 8	67.6 %	OAP - 27
27.0 %	OAP - 9	90.0 %	OAP - 28
31.0 %	OAP - 10	75.0 %	OAP - 29
31.0 %	OAP - 11	73.9 %	OAP - 30
27.0 %	OAP - 12	92.0 %	OAP - 31
33.0 %	OAP - 13	88.5 %	OAP - 32
29.1 %	OAP - 14	79.1 %	OAP - 33
44.7 %	OAP - 15	69.1 %	OAP - 34
48.0 %	OAP - 16	79.1 %	OAP - 35
60.4 %	OAP - 17	15.4 %	OAP - 36
67.6 %	OAP - 18		

N=82
Age M=18
Educ M=12

Laguna Acoma High School Seniors

Graph 4-A

Range	66-115	66-108	45-117	68-140	71-134	71-127	66-148	50-142	47-152
	G	V	N	S	P	Q	K	F	M
150									
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	88.71	86.49	87.24	105.95	105.80	96.93	110.12	99.10	111.39

Laguna-Acoma H.S. Seniors

N=82 Table 4-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-21	18.21	.924
EDUCATION	11-12	11.98	.109
G - Intelligence	66-115	88.70	11.052
V - Verbal Ability	66-108	86.48	10.525
N - Numerical Ability	45-117	87.24	15.471
S - Spatial Perception	65-140	107.21	15.176
P - Form Perception	71-134	105.80	14.347
Q - Clerical Ability	77-127	96.97	10.476
K - Motor Coordination	66-148	110.12	23.860
F - Finger Dexterity	50-151	99.09	18.978
M - Manual Coordination	73-152	111.39	23.808

N=82

Male
N=45
Age M=17.55
Educ M=12

Female
N=37
Age M=19.02
Educ M=12

Laguna-Acoma Pueblo
High School Seniors

Graph 4-C

Male ———————
Female — — — — —

nge										
	Male	66-115	66-102	47-109	65-140	71-134	77-114	66-148	50-131	47-152
	Female	70-105	72-108	45-117	68-137	87-133	80-127	91-142	66-151	73-150
		G	V	N	S	P	Q	K	F	M
150										
140										
130										
120										
110										
100										
90										
80										
70										
60										
50										
an	Male	83.93	82.15	82.22	106.73	99.95	90.71	102.88	92.04	103.34
	Female	92.08	94.86	93.62	107.81	112.91	107.21	125.06	104.43	115.62

Laguna-Acoma Male Group

N=45 Table 4-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-20	17.55	3.867
EDUCATION	12	12.00	0
G - Intelligence	66-115	83.93	11.689
V - Verbal Ability	66-102	82.15	9.517
N - Numerical Ability	47-109	82.22	15.210
S - Spatial Perception	65-140	106.73	16.804
P - Form Perception	71-134	99.95	15.341
Q - Clerical Ability	77-114	90.71	8.346
K - Motor Coordination	66-148	102.88	16.335
F - Finger Dexterity	50-131	92.04	18.022
M - Manual Coordination	47-152	108.34	20.302

Laguna-Acoma Female Group

N=37

Table 4-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-20	19.02	2.794
EDUCATION	11-12	11.98	.109
G - Intelligence	70-106	92.08	10.218
V - Verbal Ability	72-108	94.86	10.466
N - Numerical Ability	45-117	93.62	14.995
S - Spatial Perception	68-137	107.81	12.648
P - Form Perception	87-133	112.91	11.996
Q - Clerical Ability	80-127	107.21	10.539
K - Motor Coordination	91-142	125.08	14.478
F - Finger Dexterity	66-151	104.43	19.528
M - Manual Coordination	73-150	115.62	20.606

Laguna Acoma High School
O.A.P. Patterns

Chart 4-F

N=82
Age M=18
Educ M=12

OAP | % | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36

100
95
90
85
N=82
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5

.012 .012 .012 .012 .012 .085 .109 .231 .304 .328 .182 .170 .304 .413 .500 .573 .670 .668 .668 .728 .778 .524 .650 .717 .621 .948 .729 .711 .820 .844 .670 .743 .844 .012

1 0 1 0 1 1 1 7 9 19 25 27 15 14 25 38 41 47 55 54 54 59 63 10 43 53 58 51 77 59 58 67 69 55 67 69 1

GNS GNQ GVN GNQ GSP GVQ GVN GVS GNQ GSM GSF GPQ GVQ GNM GSP GSP GKM GKM GNQ GNM GPK GFM NPQ NSF NSM SPF SFM SPM PFM PKM PKM PFM QFM KFM KFM GQK

50

Laguna-Acoma High School

OAP Percentages

N=82 Table 4-G

1.2 %	OAP - 0 (none)	66.8 %	OAP - 19
.0 %	OAP - 1	66.8 %	OAP - 20
1.2 %	OAP - 2	72.9 %	OAP - 21
.0 %	OAP - 3	77.8 %	OAP - 22
1.2 %	OAP - 4	12.2 %	OAP - 23
1.2 %	OAP - 5	52.4 %	OAP - 24
1.2 %	OAP - 6	65.0 %	OAP - 25
8.5 %	OAP - 7	71.7 %	OAP - 26
10.9 %	OAP - 8	62.1 %	OAP - 27
23.1 %	OAP - 9	94.8 %	OAP - 28
30.4 %	OAP - 10	72.9 %	OAP - 29
32.9 %	OAP - 11	71.7 %	OAP - 30
18.2 %	OAP - 12	82.0 %	OAP - 31
17.0 %	OAP - 13	84.1 %	OAP - 32
30.4 %	OAP - 14	67.0 %	OAP - 33
46.3 %	OAP - 15	74.3 %	OAP - 34
50.0 %	OAP - 16	84.1 %	OAP - 35
57.3 %	OAP - 17	1.2 %	OAP - 36
67.0 %	OAP - 18		

N=65
Age M=25.16
Educ M=10.24
Age Range=17-58
Educ Range=6-13

San Felipe Pueblo

Graph 5-4

Range	47-107	62-102	24-117	61-133	24-139	63-127	34-137	31-127	37-132
150	G	V	N	S	P	Q	K	F	M
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	76.50	77.20	73.03	93.95	93.38	91.32	96.94	87.01	100.85

San Felipe Adult Group

N=65 Table 5-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-54	25.17	9.215
EDUCATION	6-13	10.24	2.061
G - Intelligence	52-107	76.50	12.742
V - Verbal Ability	61-98	77.20	8.383
N - Numerical Ability	24-107	73.03	18.610
S - Spatial Perception	61-130	93.95	16.92
P - Form Perception	24-131	93.38	23.237
Q - Clerical Ability	63-127	91.32	14.899
K - Motor Coordination	34-137	96.94	19.668
F - Finger Dexterity	31-127	87.01	19.180
M - Manual Coordination	37-132	100.85	18.968

N=55

Male N=40
Age M =22.96
Educ M=10.16

Female N=25
Age M=26.55
Educ M=10.30

San Felipe Pueblo

Graph 5-C
Male ———————
Female — — — —

Range Male	47-107	61-98	32-98	61-130	24-131	63-127	34-137	31-123	62-130
Female	47-88	61-88	24-92	61-117	44-139	70-119	49-126	46-127	37-132
150	G	V	N	S	P	Q	K	F	M
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean Male	77.22	77.22	74.77	93.45	92.02	89.60	95.35	85.40	98.60
Female	75.36	77.16	70.24	94.76	95.56	94.08	99.48	89.60	104.44

San Felipe Male Group

N=40 Table 5-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-58	22.96	10.758
EDUCATION	6-13	10.16	5.310
G - Intelligence	47-107	57.50	14.765
V - Verbal Ability	61-98	77.22	9.634
N - Numerical Ability	32-98	74.77	19.496
S - Spatial Perception	61-130	93.45	18.601
P - Form Perception	24-131	92.02	25.458
Q - Clerical Ability	63-127	89.60	15.311
K - Motor Coordination	34-137	95.35	21.420
F - Finger Dexterity	31-123	85.40	18.698
M - Manual Coordination	62-130	98.60	16.924

San Felipe Female Group

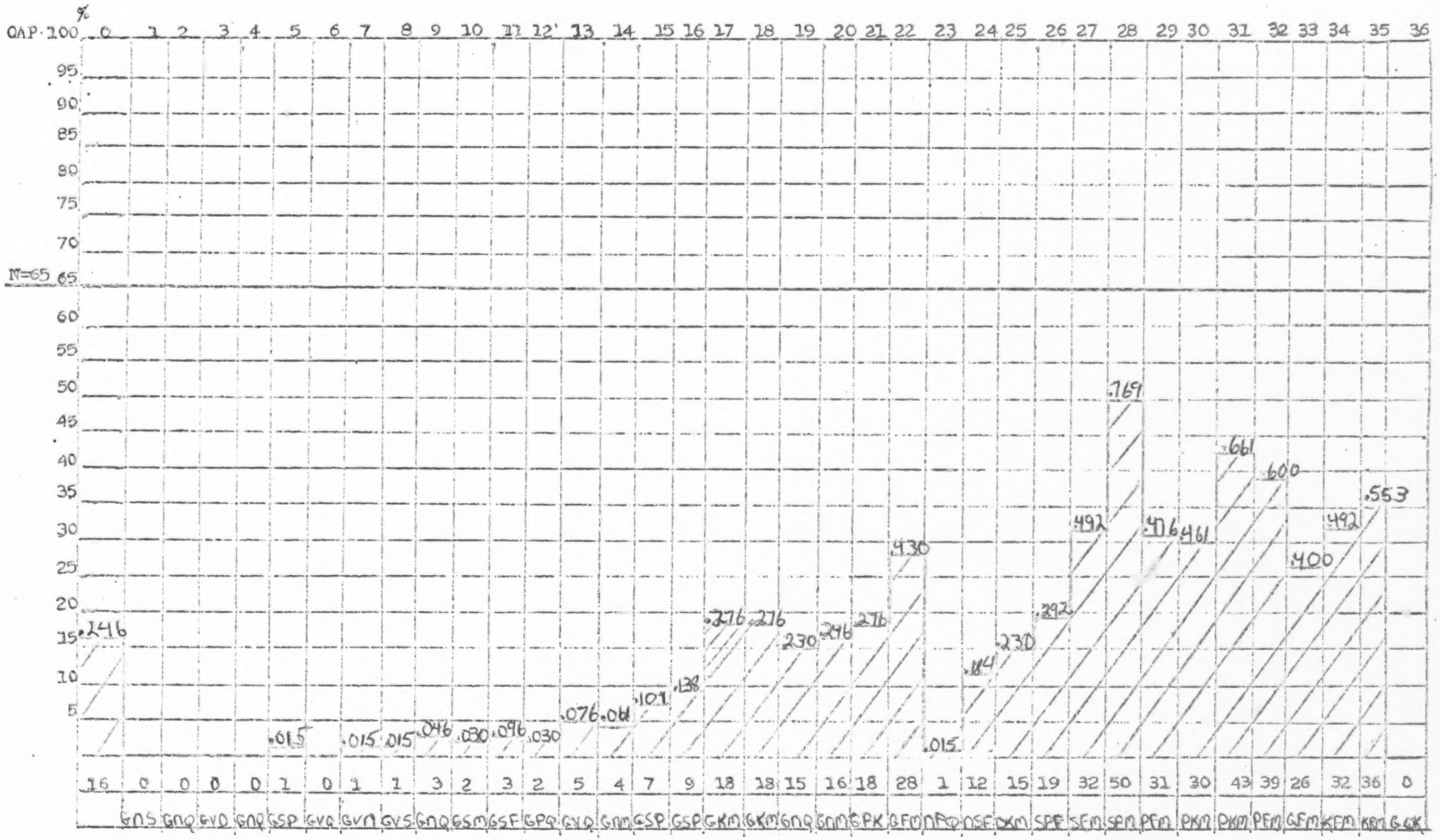
N=25 Table 5-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-36	26.55	5.310
EDUCATION	6-13	10.30	2.129
G - Intelligence	47-88	75.36	8.436
V - Verbal Ability	61-88	77.16	5.849
N - Numerical Ability	24-92	70.24	16.724
S - Spatial Perception	61-117	94.76	13.770
P - Form Perception	44-139	95.56	18.952
Q - Clerical Ability	70-119	94.08	13.775
K - Motor Coordination	49-126	99.48	16.161
F - Finger Dexterity	46-127	89.60	19.652
M - Manual Coordination	37-132	104.44	21.358

N=65
Age M=25.16
Educ M=10.24

San Felipe Pueblo Adult Group
O.A.P. Patterns

Chart 5-F



San Felipe Pueblo Adult Group

OAP Percentages

N=65 Table 5-G

24.6 %	OAP - 0 (none)	23.0 %	OAP - 19
.0 %	OAP - 1	24.6 %	OAP - 20
.0 %	OAP - 2	27.6 %	OAP - 21
.0 %	OAP - 3	43.0 %	OAP - 22
.0 %	OAP - 4	1.5 %	OAP - 23
1.5 %	OAP - 5	18.4 %	OAP - 24
.0 %	OAP - 6	23.0 %	OAP - 25
1.5 %	OAP - 7	29.2 %	OAP - 26
1.5 %	OAP - 8	49.2 %	OAP - 27
4.6 %	OAP - 9	76.9 %	OAP - 28
3.0 %	OAP - 10	47.6 %	OAP - 29
4.6 %	OAP - 11	46.1 %	OAP - 30
3.0 %	OAP - 12	66.1 %	OAP - 31
7.6 %	OAP - 13	60.0 %	OAP - 32
6.1 %	OAP - 14	40.0 %	OAP - 33
10.7 %	OAP - 15	49.2 %	OAP - 34
13.8 %	OAP - 16	55.3 %	OAP - 35
27.6 %	OAP - 17	.0 %	OAP - 36
27.6 %	OAP - 18		

N=11
Age M=22.6
Educ M=11.8
Age Range=17-40
Educ Range=10-13

Santa Ana Pueblo

Graph 6-A

Range	75-97	70-104	57-96	84-124	69-122	77-119	76-126	72-108	69-120
150	G	T	N	S	P	Q	K	F	M
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Means	85.82	86.00	83.09	102.73	97.45	103.13	106.27	91.45	99.45

Santa Ana Pueblo Adult Group

N=11 Table 6-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-40	22.63	6.545
EDUCATION	10-13	11.82	.636
G - Intelligence	75-97	85.82	6.925
V - Verbal Ability	70-104	86.00	10.753
N - Numerical Ability	57-96	83.09	10.899
S - Spatial Perception	84-120	102.73	12.671
P - Form Perception	70-122	97.45	16.675
Q - Clerical Ability	93-119	103.18	11.002
K - Motor Coordination	76-126	106.27	12.749
F - Finger Dexterity	72-108	91.45	9.632
M - Manual Coordination	69-125	99.45	18.317

N-11

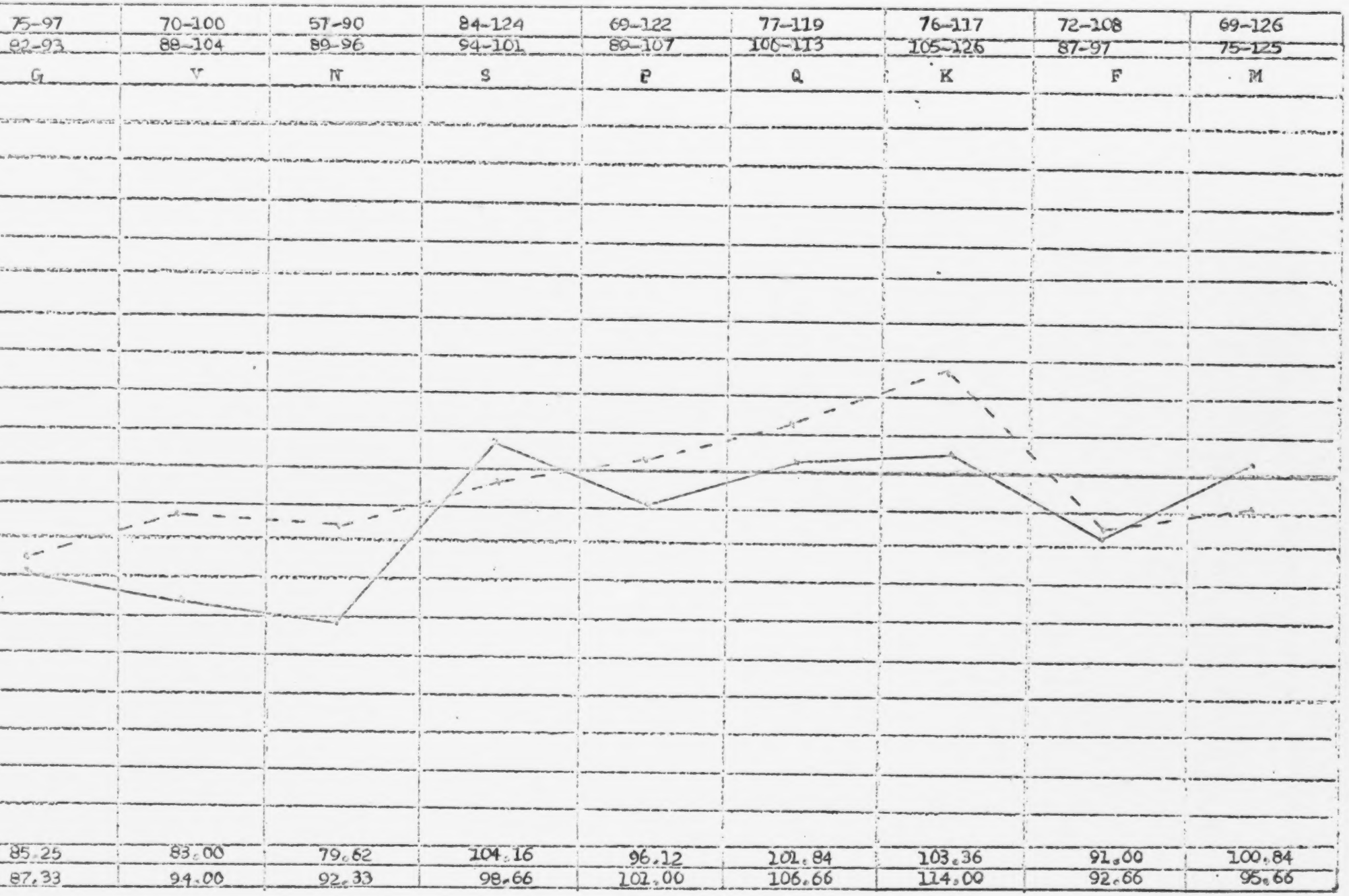
Male
N=8
Age M=24.75
Educ. M=11.75

Female
N=3
Age M=17.00
Educ. M=12.00

Santa Ana Pueblo

Graph 6-C
Male ————
Female - - - - - -

Range Male	75-97	70-100	57-90	84-124	69-122	77-119	76-117	72-108	69-126
Female	92-93	88-104	89-96	94-101	89-107	106-113	105-126	87-97	75-125
	G	V	N	S	P	Q	K	F	M



Mean Male	85.25	83.00	79.62	104.16	96.12	101.84	103.36	91.00	100.84
Female	87.33	94.00	92.33	98.66	102.00	106.66	114.00	92.66	95.66

Santa Ana Male Group

N=8 Table 6-D

GATB APTITUDE	RANGE	MEAN	SD, DEV.
AGE	18-40	24.75	6.590
EDUCATION	10-13	11.75	5.500
G - Intelligence	75-97	85.25	7.562
V - Verbal Ability	70-100	83.00	10.344
N - Numerical Ability	57-90	79.62	10.781
S - Spatial Perception	84-124	104.16	14.428
P - Form Perception	69-122	96.12	18.677
Q - Clerical Ability	77-119	101.84	12.231
K - Motor Coordination	76-117	103.36	12.785
F - Finger Dexterity	72-108	91.00	10.965
M - Manual Coordination	69-126	100.84	16.840

Santa Ana Female Group

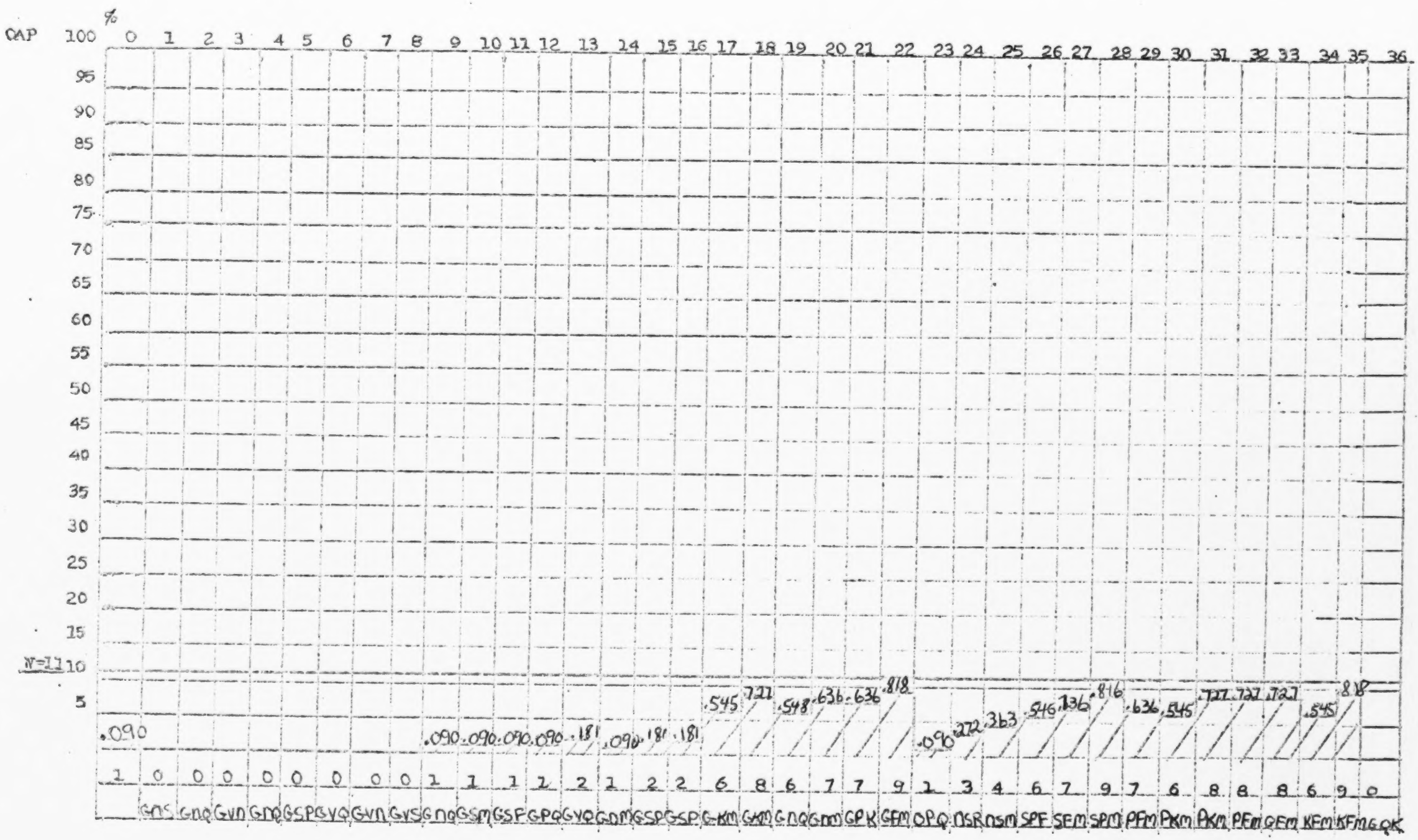
N=3 Table 6-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17	17.00	0
EDUCATION	12	12.00	0
G - Intelligence	82-93	87.33	4.496
V - Verbal Ability	88-104	94.00	7.116
N - Numerical Ability	89-96	92.33	2.867
S - Spatial Perception	94-101	98.66	3.299
P - Form Perception	89-107	101.00	8.493
Q - Clerical Ability	100-113	106.66	5.312
K - Motor Coordination	105-126	114.00	8.843
F - Finger Dexterity	87-97	92.66	4.189
M - Manual Coordination	75-125	95.66	21.123

N=11.
Age M=22.63
Educ M=11.82

Santa Ana Pueblo Adult Group
C.A.P. Patterns

Chart 6-F



Santa Ana Pueblo Adult Group

OAP Percentages

N=11 Table 6-G

9.0 %	OAP - 0 (none)	54.5 %	OAP - 19
.0 %	OAP - 1	63.6 %	OAP - 20
.0 %	OAP - 2	63.6 %	OAP - 21
.0 %	OAP - 3	81.8 %	OAP - 22
.0 %	OAP - 4	9.0 %	OAP - 23
.0 %	OAP - 5	27.2 %	OAP - 24
.0 %	OAP - 6	31.3 %	OAP - 25
.0 %	OAP - 7	54.5 %	OAP - 26
.0 %	OAP - 8	63.6 %	OAP - 27
9.0 %	OAP - 9	81.8 %	OAP - 28
9.0 %	OAP - 10	63.6 %	OAP - 29
9.0 %	OAP - 11	54.5 %	OAP - 30
9.0 %	OAP - 12	72.7 %	OAP - 31
18.1 %	OAP - 13	72.7 %	OAP - 32
9.0 %	OAP - 14	72.7 %	OAP - 33
18.1 %	OAP - 15	54.5 %	OAP - 34
18.1 %	OAP - 16	81.8 %	OAP - 35
54.5 %	OAP - 17	.0 %	OAP - 36
72.7 %	OAP - 18		

N=71
Age M=25.08
Educ M=10.78
Age Range=17.44
Educ Range=6=14

Santo Domingo

Graph 7-A

Range	54=104	63-102	48-107	65-137	33-148	68-134	66-140	65-172	66-140
	G	V	T	S	P	Q	K	F	M
150									
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	78.68	78.38	78.35	96.85	101.47	97.78	104.803	96.972	103.704

66

Santo Domingo Adult Group

N=65

Table 7-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-43	25.08	7.098
EDUCATION	6-14	10.78	1.617
G - Intelligence	54-104	78.68	11.704
V - Verbal Ability	63-102	78.38	8.479
N - Numerical Ability	50-107	78.35	15.254
S - Spatial Perception	65-137	96.85	16.352
P - Form Perception	33-141	101.43	20.647
Q - Clerical Ability	68-134	97.78	11.971
K - Motor Coordination	66-140	104.80	14.380
F - Finger Dexterity	65-172	96.97	20.972
M - Manual Coordination	69-140	103.70	19.127

N=71
Male
N=55
AgeM=26.2
EducM=10.70

Female
N=16
Age M=21.25
Educ M=11.06

Santo Domingo Pueblo

Table 7-C
Male _____
Female _ _ _ _ _

Range										
	Male	54-104	63-100	50-107	65-137	33-148	68-127	66-132	65-136	66-134
	Female	65-103	66-102	61-107	68-124	39-137	86-134	80-140	70-172	72-140
150		G	V	N	S	P	Q	K	F	M
140										
130										
120										
110										
100										
90										
80										
70										
60										
50										
Range	Male	77.80	77.58	76.47	97.27	99.94	95.52	104.98	94.07	103.07
	Female	81.68	81.12	85.00	95.43	106.56	105.56	104.18	106.93	105.87

Santo Domingo Male Group

N=55 Table 7-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-43	26.20	7.351
EDUCATION	6-14	10.70	1.765
G - Intelligence	54-104	77.80	11.600
V - Verbal Ability	63-100	77.58	16.457
N - Numerical Ability	50-107	76.41	14.558
S - Spatial Perception	65-137	97.27	16.059
P - Form Perception	33-[illegible]	99.94	19.966
Q - Clerical Ability	68-127	95.52	11.307
K - Motor Coordination	66-132	104.98	14.503
F - Finger Dexterity	65-136	94.07	18.985
M - Manual Coordination	66-134	103.07	18.101

Santo Domingo Female Group

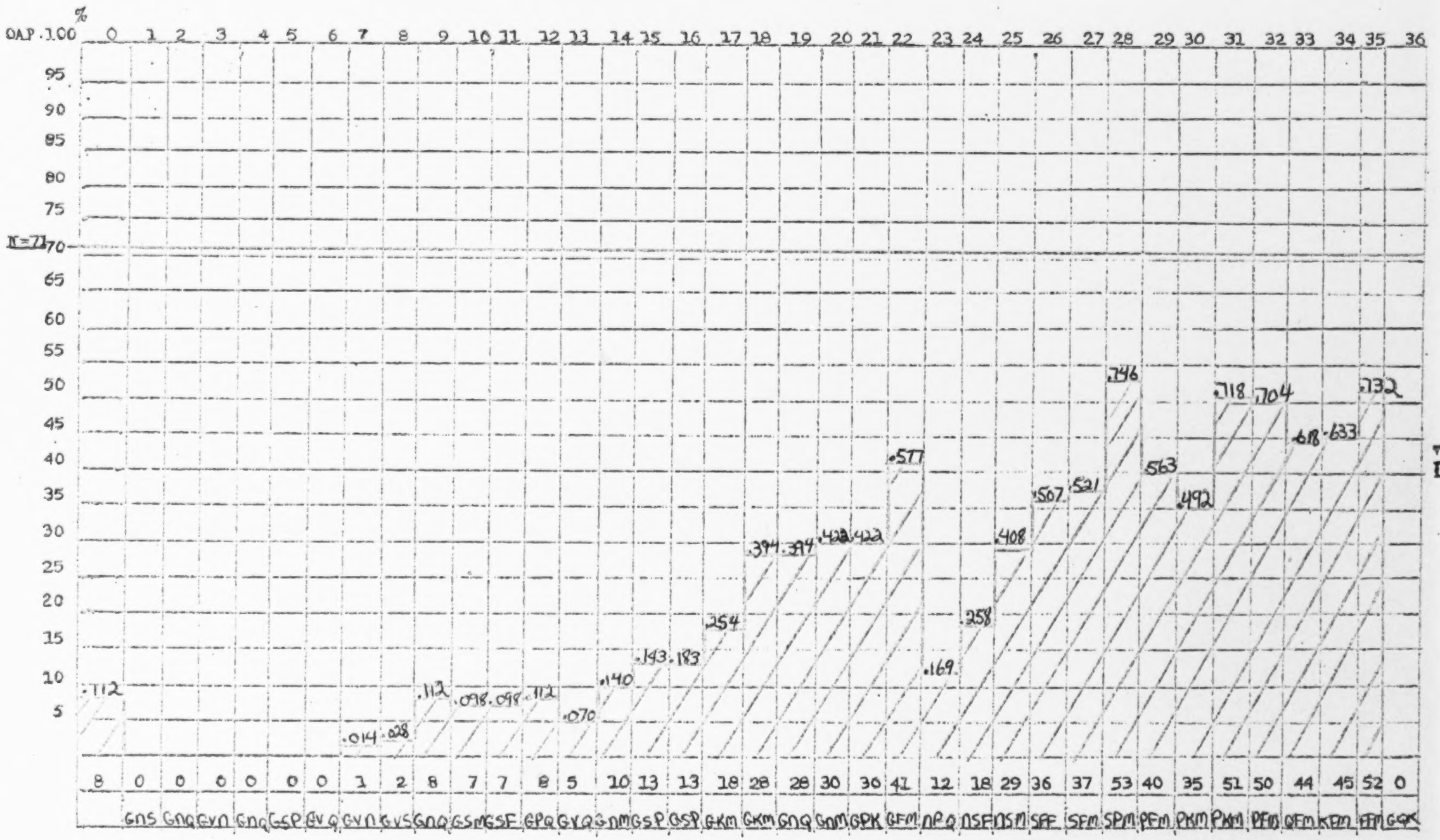
N=16 Table 7-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-24	21.25	4.337
EDUCATION	10-12	11.06	.899
G - Intelligence	65-103	81.68	11.569
V - Verbal Ability	66-102	81.12	9.486
N - Numerical Ability	61-107	85.00	15.722
S - Spatial Perception	68-124	95.43	17.311
P - Form Perception	39-137	106.56	21.905
Q - Clerical Ability	86-134	105.56	10.942
K - Motor Coordination	80-140	104.18	13.940
F - Finger Dexterity	70-172	106.93	24.198
M - Manual Coordination	72-140	105.87	22.146

N=71
Age M=25.08
Educ M=10.78

Santo Domingo Pueblo Adult Group
O.A.P. Patterns

Chart 7-F



Santo Domingo Pueblo Adult Group

OAP Percentages

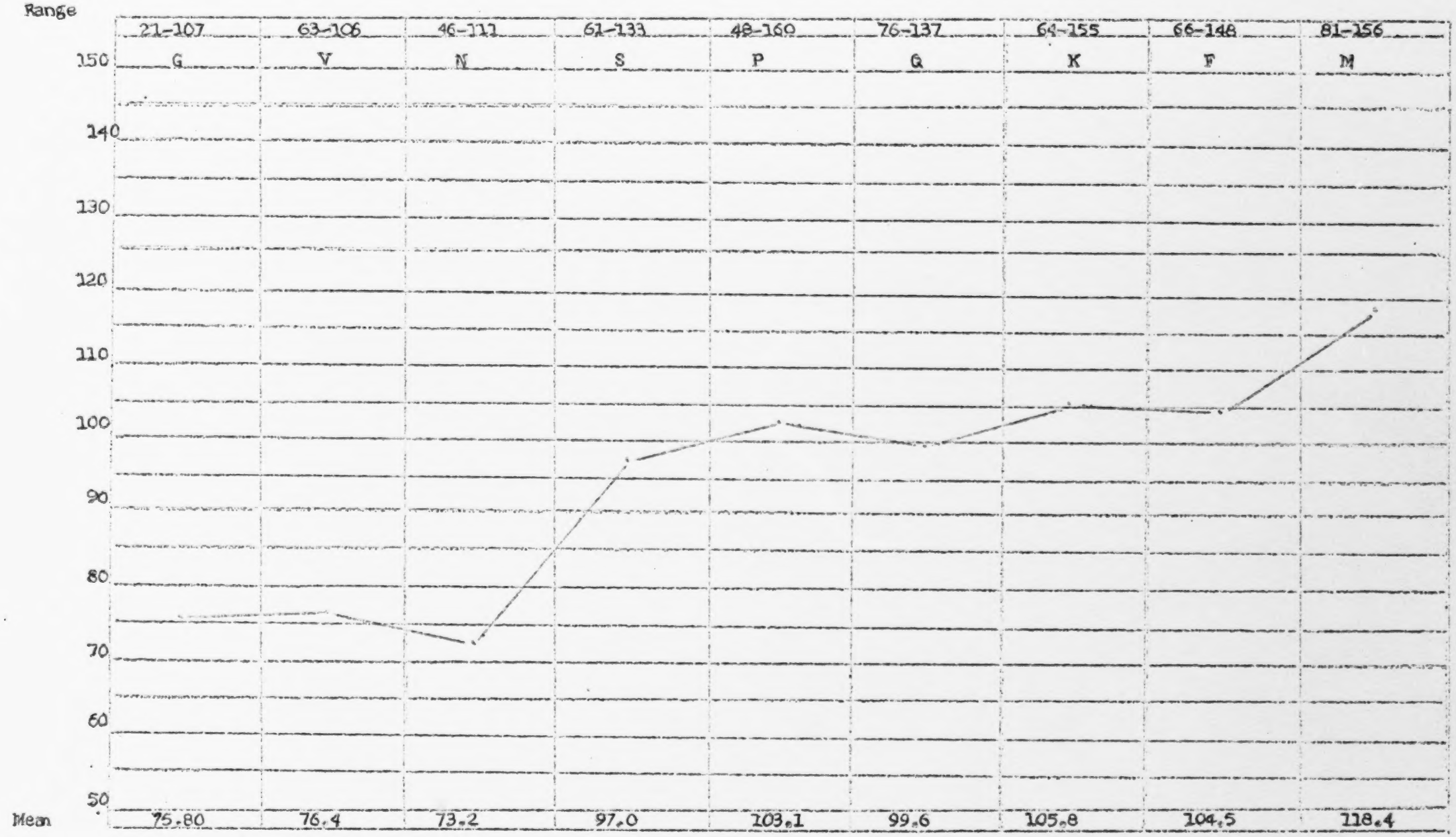
N=71 Table 7-G

11.2 %	OAP - 0 (none)	39.4 %	OAP - 19
.0 %	OAP - 1	42.2 %	OAP - 20
.0 %	OAP - 2	42.2 %	OAP - 21
.0 %	OAP - 3	57.7 %	OAP - 22
.0 %	OAP - 4	16.9 %	OAP - 23
.0 %	OAP - 5	25.3 %	OAP - 24
.0 %	OAP - 6	40.8 %	OAP - 25
1.4 %	OAP - 7	50.7 %	OAP - 26
2.8 %	OAP - 8	52.1 %	OAP - 27
11.2 %	OAP - 9	74.6 %	OAP - 28
9.8 %	OAP - 10	56.3 %	OAP - 29
9.8 %	OAP - 11	49.2 %	OAP - 30
11.2 %	OAP - 12	71.8 %	OAP - 31
7.0 %	OAP - 13	70.4 %	OAP - 32
14.0 %	OAP - 14	61.9 %	OAP - 33
18.3 %	OAP - 15	63.3 %	OAP - 34
18.3 %	OAP - 16	73.2 %	OAP - 35
25.4 %	OAP - 17	.0 %	OAP - 36
39.4 %	OAP - 18		

N =81
Age M=21.9
Educ M=10.2

Shiprock Navajo Reservation

Graph 8-A



Ship Rock Navajo Adult Group

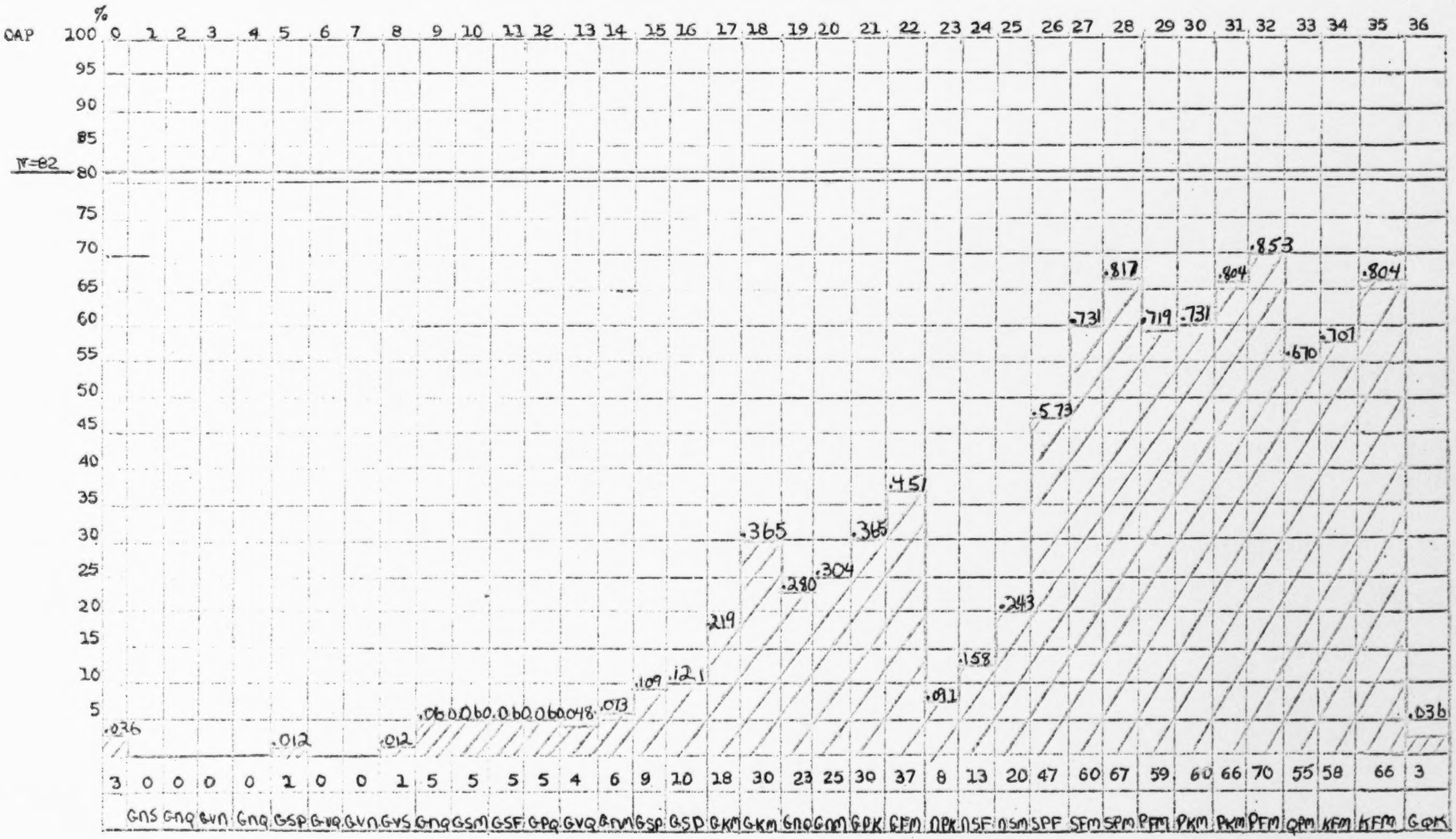
N=81 Table 8-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-34	21.85	3.887
EDUCATION	7-12	10.18	1.772
G - Intelligence	21-107	75.82	13.328
V - Verbal Ability	63-106	76.35	11.910
N - Numerical Ability	46-111	73.24	15.929
S - Spatial Perception	61-133	96.97	16.062
P - Form Perception	48-160	103.13	20.613
Q - Clerical Ability	76-137	99.55	15.588
K - Motor Coordination	64-155	105.76	18.885
F - Finger Dexterity	66-148	104.49	18.733
M - Manual Coordination	70-155	118.17	17.329

N=82
Age M=21.9
Educ M=10.2

Shiprock Navajo Reservation
Adult Female Group
O.A.P. Patterns

Chart 8-F



Shiprock Navajo Reservation

OAP Percentages

N=82 Table 8-G

3.6 %	OAP - 0 (none)	28.0 %	OAP - 19
.0 %	OAP - 1	30.4 %	OAP - 20
.0 %	OAP - 2	36.5 %	OAP - 21
.0 %	OAP - 3	45.1 %	OAP - 22
.0 %	OAP - 4	9.7 %	OAP - 23
1.2 %	OAP - 5	15.8 %	OAP - 24
.0 %	OAP - 6	24.3 %	OAP - 25
.0 %	OAP - 7	57.3 %	OAP - 26
1.2 %	OAP - 8	73.1 %	OAP - 27
6.0 %	OAP - 9	81.7 %	OAP - 28
6.0 %	OAP - 10	71.9 %	OAP - 29
6.0 %	OAP - 11	73.1 %	OAP - 30
6.0 %	OAP - 12	80.4 %	OAP - 31
4.8 %	OAP - 13	85.3 %	OAP - 32
7.3 %	OAP - 14	67.0 %	OAP - 33
10.9 %	OAP - 15	70.7 %	OAP - 34
12.1 %	OAP - 16	80.4 %	OAP - 35
21.9 %	OAP - 17	3.6 %	OAP - 36
36.5 %	OAP - 18		

N=73
Age M=25.18
Educ M=10.8

Zuni Adult Group

Graph 9-A

Range	51-125	65-113	36-115	55-133	44-137	58-133	24-142	65-127	74-164
	G	V	N	S	P	Q	K	F	M
250									
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	81.62	80.52	78.07	95.79	100.53	97.18	100.26	96.07	116.19

Zuni Pueblo Adult Group

N=73 Table 9-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-39	21.18	6.275
EDUCATION	7-14	10.97	1.570
G - Intelligence	51-125	81.59	12.667
V - Verbal Ability	65-113	80.52	9.331
N - Numerical Ability	36-115	78.07	16.625
S - Spatial Perception	55-133	95.79	16.877
P - Form Perception	44-137	100.53	17.100
Q - Clerical Ability	58-133	97.18	13.755
K - Motor Coordination	24-142	100.26	16.577
F - Finger Dexterity	58-127	96.07	16.825
M - Manual Coordination	74-164	116.19	16.246

N=73

Male N=27
Age M=25.48
Educ M=11.22

Female N=46
Age M=25.00
Educ M=11.08

Zuni Adult Group

Graph 9-C
Male ———————
Female – – – – – –

		G	V	N	S	P	Q	K	F	M
Range	Male	51-101	70-102	48-111	65-127	44-137	74-120	53-142	58-128	74-164
	Female	51-125	65-113	36-115	55-133	56-136	58-133	24-140	65-127	93-154
Mean	Male	83.88	81.77	78.70	101.40	96.92	98.44	100.88	91.48	114.44
	Female	80.23	80.21	77.69	95.04	100.54	96.43	99.59	98.76	117.21

Zuni Adult Male Group

N=27 Table 9-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-39	25.48	6.465
EDUCATION	8-14	11.22	1.498
G - Intelligence	51-101	83.88	12.004
V - Verbal Ability	70-102	81.77	9.527
N - Numerical Ability	48-111	78.70	16.410
S - Spatial Perception	65-127	101.40	16.248
P - Form Perception	44-137	96.92	17.632
Q - Clerical Ability	74-120	98.44	13.169
K - Motor Coordination	53-142	100.88	17.525
F - Finger Dexterity	58-128	91.48	15.753
M - Manual Coordination	74-164	114.44	15.966

Zuni Adult Female Group

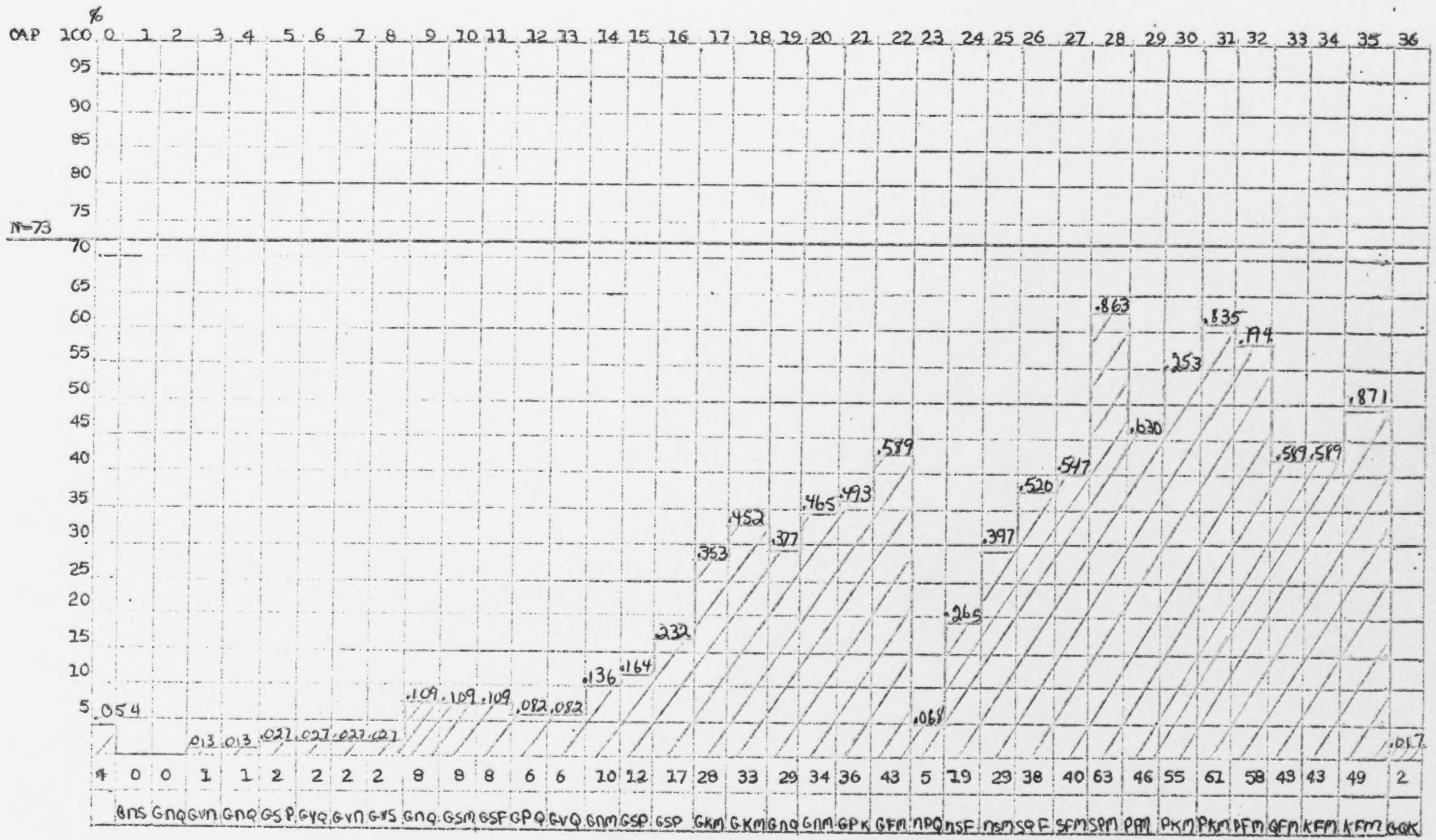
N=46 Table 9-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	18-37	25.00	7.913
EDUCATION	7-14	11.08	3.326
G - Intelligence	51-125	80.23	12.850
V - Verbal Ability	65-113	80.21	9.200
N - Numerical Ability	36-115	77.69	16.536
S - Spatial Perception	55-133	95.04	16.761
P - Form Perception	56-136	100.54	16.780
Q - Clerical Ability	58-133	96.43	14.035
K - Motor Coordination	24-140	99.89	22.442
F - Finger Dexterity	65-127	98.76	16.852
M - Manual Coordination	93-154	117.21	16.318

N=73
Age M=25.18
Educ M=10.8

Zuni Pueblo Adult Group
O.A.P. Patterns

Chart 9-F



Zuni Pueblo Adult Group

OAP Percentages

N=73 Table 9-G

5.4 %	OAP - 0 (none)	39.7 %	OAP - 19
.0 %	OAP - 1	46.5 %	OAP - 20
.0 %	OAP - 2	49.3 %	OAP - 21
1.3 %	OAP - 3	58.9 %	OAP - 22
1.3 %	OAP - 4	68.0 %	OAP - 23
2.7 %	OAP - 5	26.0 %	OAP - 24
2.7 %	OAP - 6	39.7 %	OAP - 25
2.7 %	OAP - 7	52.0 %	OAP - 26
2.7 %	OAP - 8	54.7 %	OAP - 27
10.9 %	OAP - 9	86.3 %	OAP - 28
10.9 %	OAP - 10	63.0 %	OAP - 29
10.9 %	OAP - 11	75.3 %	OAP - 30
8.2 %	OAP - 12	83.5 %	OAP - 31
8.2 %	OAP - 13	79.4 %	OAP - 32
13.6 %	OAP - 14	58.9 %	OAP - 33
16.4 %	OAP - 15	58.9 %	OAP - 34
23.2 %	OAP - 16	67.1 %	OAP - 35
38.3 %	OAP - 17	2.7 %	OAP - 36
45.2 %	OAP - 18		

N=63
Age M=17.7
Educ M=12

Zuni High School

Graph 10-A

Range	60-125	72-121	62-130	65-140	74-150	76-142	72-144	51-135	45-163
	G	V	N	S	P	Q	K	F	M
150									
140									
130									
120									
110									
100									
90									
80									
70									
60									
50									
Mean	91.1	89.7	94.1	98.5	106.6	106.1	107.7	101.1	105.1

Zuni High School

N=63 Table 10-B

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-22	18.01	1.015
EDUCATION	12	12.00	0
G - Intelligence	68-125	91.15	12.580
V - Verbal Ability	72-121	89.74	11.795
N - Numerical Ability	62-130	94.14	13.195
S - Spatial Perception	65-140	98.52	15.407
P - Form Perception	74-150	106.58	16.057
Q - Clerical Ability	76-142	106.07	13.764
K - Motor Coordination	72-144	107.74	14.925
F - Finger Dexterity	51-143	101.14	18.230
M - Manual Coordination	45-163	105.13	18.219

N=63

Male N=34
Age M=18.23
Educ. M=12

Female N=29
Age M=17.17
Educ M=12

Zuni Pueblo High School Seniors

Graph 10-C
Male _____
Female - - - -

Range		G	V	N	S	P	Q	K	F	M
	Male	68-105	72-104	62-113	65-140	74-137	76-125	72-136	51-135	45-117
	Female	74-125	72-121	77-130	74-120	85-150	80-142	89-144	77-143	80-163
Male		89.11	87.05	92.05	98.35	102.50	100.26	101.67	101.79	102.79
Female		93.55	92.89	96.58	98.72	107.93	112.89	111.37	100.37	107.86

Zuni H.S. Male Group

N=34 Table 10-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	17-22	18.23	.941
EDUCATION	12	12.00	0
G - Intelligence	68-105	89.11	9.700
V - Verbal Ability	72-104	87.05	8.597
N - Numerical Ability	62-113	92.05	12.787
S - Spatial Perception	65-140	98.35	17.286
P - Form Perception	74-137	102.50	12.955
Q - Clerical Ability	76-125	100.26	11.202
K - Motor Coordination	72-136	101.67	15.317
F - Finger Dexterity	51-135	101.79	17.675
M - Manual Coordination	45-117	102.79	15.289

Zuni H.S. Female Group

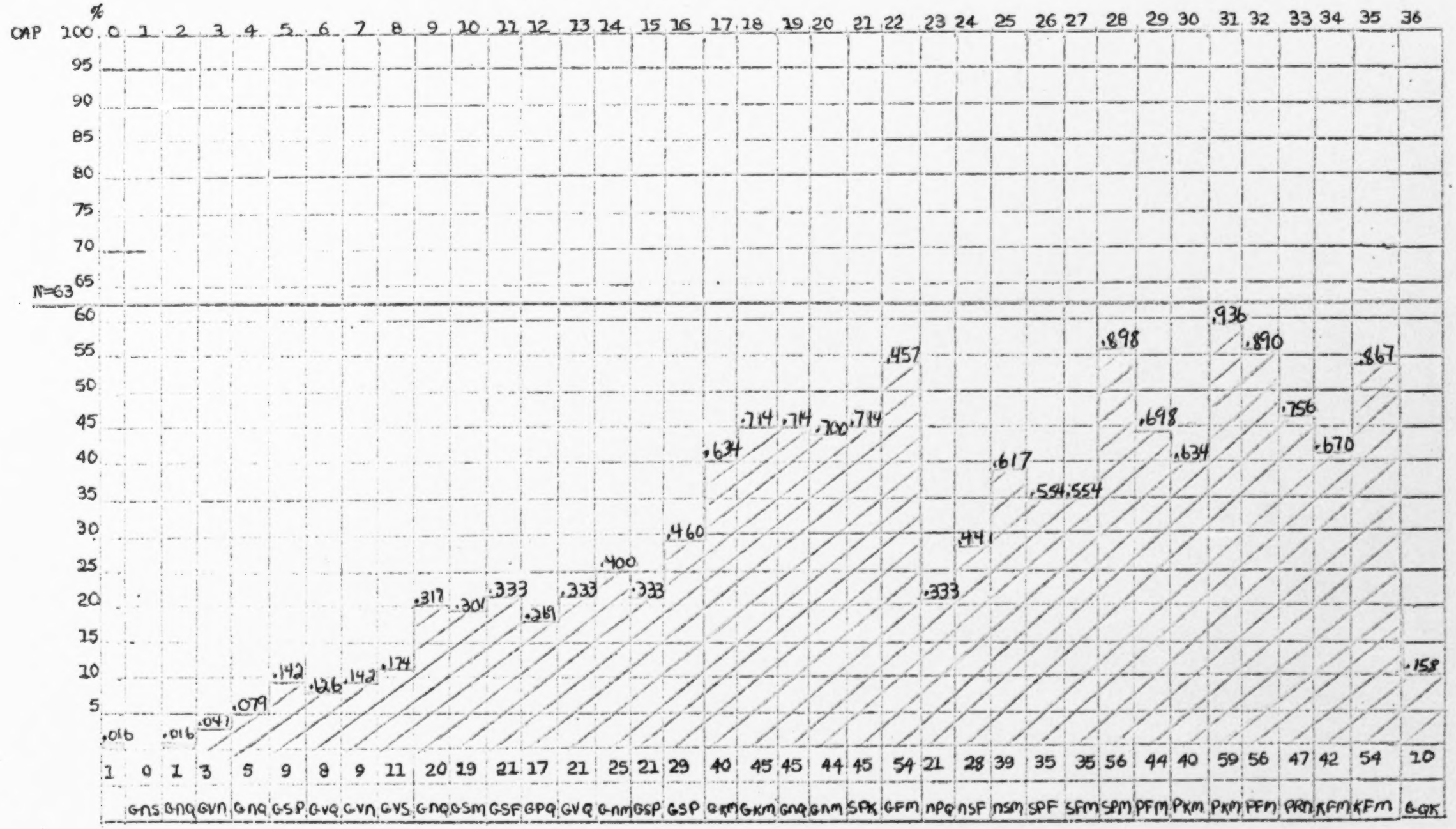
N=29 Table 10-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-21	17.17	3.404
EDUCATION	12	12.00	0
G - Intelligence	74-125	93.55	14.928
V - Verbal Ability	72-121	92.89	14.052
N - Numerical Ability	77-130	96.58	13.247
S - Spatial Perception	74-120	98.72	12.857
P - Form Perception	85-150	107.93	17.910
Q - Clerical Ability	80-142	112.89	13.355
K - Motor Coordination	89-144	111.37	13.578
F - Finger Dexterity	77-143	100.37	18.530
M - Manual Coordination	80-163	107.86	19.163

N=63
Age M=17.7
Educ M=12

Zuni High School
OAP Patterns

Chart 10-F



Zuni High School

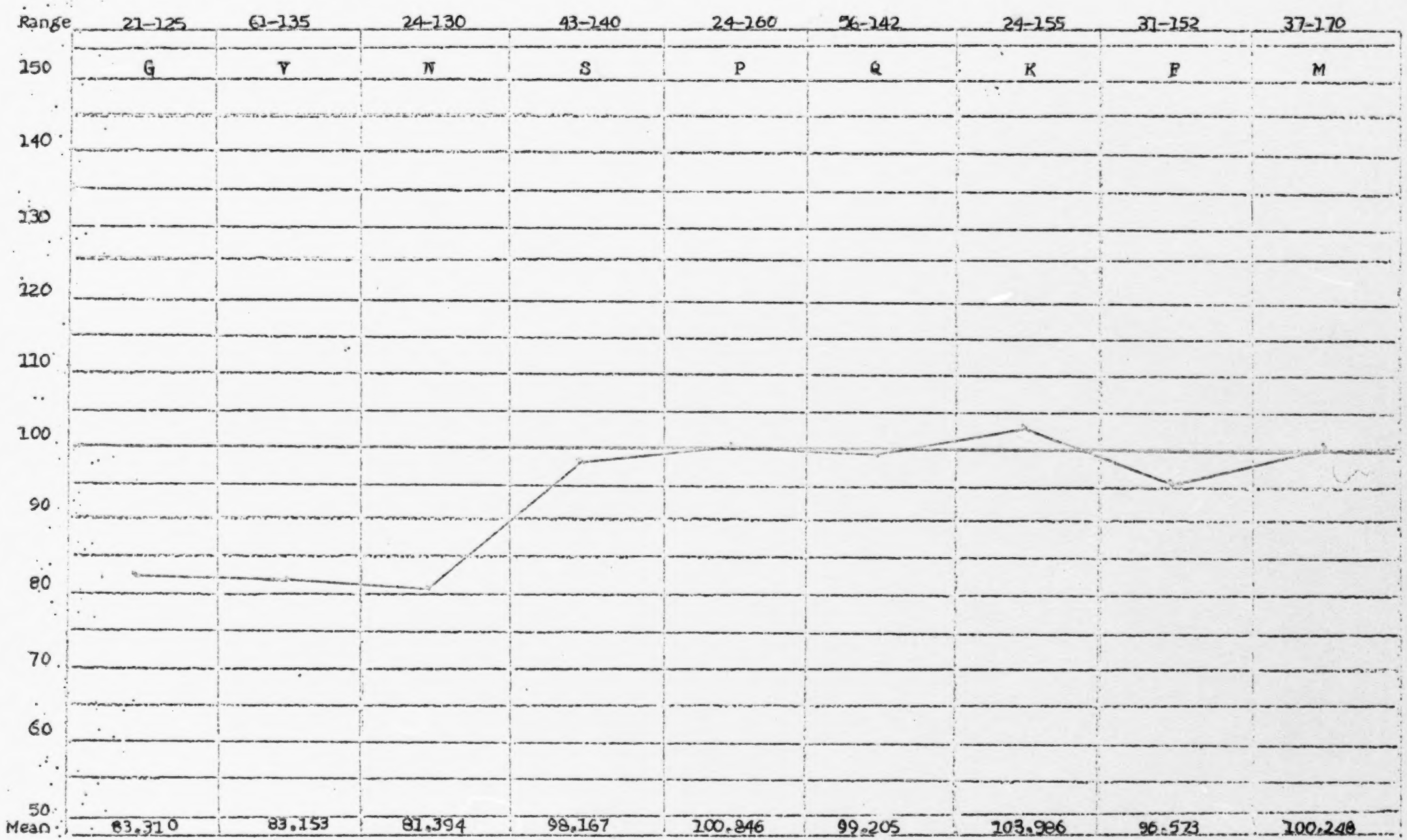
OAP Percentages

N=63 Table 10-G

1.6 %	OAP - 0 (none)	71.4 %	OAP - 19
.0 %	OAP - 1	70.0 %	OAP - 20
1.6 %	OAP - 2	71.4 %	OAP - 21
4.7 %	OAP - 3	95.7 %	OAP - 22
7.9 %	OAP - 4	33.3 %	OAP - 23
14.2 %	OAP - 5	44.4 %	OAP - 24
12.6 %	OAP - 6	61.9 %	OAP - 25
14.2 %	OAP - 7	55.5 %	OAP - 26
17.4 %	OAP - 8	55.5 %	OAP - 27
31.7 %	OAP - 9	88.8 %	OAP - 28
30.1 %	OAP - 10	69.8 %	OAP - 29
33.0 %	OAP - 11	63.4 %	OAP - 30
26.9 %	OAP - 12	93.6 %	OAP - 31
33.3 %	OAP - 13	89.0 %	OAP - 32
40.0 %	OAP - 14	75.6 %	OAP - 33
33.3 %	OAP - 15	67.6 %	OAP - 34
46.0 %	OAP - 16	86.7 %	OAP - 35
63.4 %	OAP - 17	15.8 %	OAP - 36
71.4 %	OAP - 18		

N=583
Age M =23,55
Educ.M= 6.32

Profile for Combined New Mexico Indian Population GATB Sample
Including Laguna Acoma H.S., Zuni H.S. Seniors, and Adult Groups from Acoma, Zuni
Laguna, Santa Ana, Cochiti, Santo Domingo Pueblos and Shiprock New Mexico Navajo Reservation. Graph II-A



N=583
Male N=251 Age M=25.05 EducM=11.10
Female N=332 Age M=22.72 EducM=11.26

Male and Female Profiles for Combined New Mexico Indian Population
Including Laguna Acoma H.S., Zuni H.S. Seniors, and Adult Groups from Acoma, Zuni, Laguna, Santa Ana, Cochiti, Santo Domingo Pueblos and Shiprock New Mexico Navajo Reservation.

Graph H-C
Male _____
Female _ _ _ _

Ranges										
Male		47-120	51-135	32-126	43-140	24-148	56-127	34-148	31-167	37-170
Female		21-125	61-127	24-130	61-137	39-160	58-142	24-155	39-172	37-170
	150	G	V	N	S	P	Q	K	F	M
	140									
	130									
	120									
	110									
	100									
	90									
	80									
	70									
	60									
	50									
Mean Male		83.40	82.39	80.37	99.17	97.02	95.22	100.54	91.49	104.32
Mean Female		84.73	86.04	84.16	98.82	103.73	102.68	107.67	99.70	110.80

Combined Male Groups

N=251 Table 19-D

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-58	25.05	6.879
EDUCATION	6-14	11.10	2.465
G - Intelligence	47-120	83.40	12.365
V - Verbal Ability	51-135	82.39	11.762
N - Numerical Ability	32-126	80.37	15.359
S - Spatial Perception	43-140	99.17	16.159
P - Form Perception	24-148	97.02	18.926
Q - Clerical Ability	56-127	95.22	13.164
K - Motor Coordination	34-148	100.54	17.485
F - Finger Dexterity	31-167	91.49	16.682
M - Manual Coordination	37-170	104.32	19.487

Combined Female Groups

N=332 Table 19-E

GATB APTITUDE	RANGE	MEAN	SD. DEV.
AGE	16-55	22.72	5.204
EDUCATION	6-14	11.26	1.217
G - Intelligence	21-125	84.73	11.119
V - Verbal Ability	61-127	86.04	10.222
N - Numerical Ability	24-130	84.16	13.724
S - Spatial Perception	61-137	98.82	13.572
P - Form Perception	39-160	103.73	16.386
Q - Clerical Ability	58-142	102.68	11.888
K - Motor Coordination	24-155	107.67	15.614
F - Finger Dexterity	39-172	99.70	18.127
M - Manual Coordination	37-170	110.80	20.626

N=583
Age M=23.55
Educ M=11.03

Profile for Combined New Mexico Indian Population GATB Sample
Including Laguna-Acoma H.S., Zuni H.S. Seniors and Adult Groups from Acoma, Zuni, Laguna, Cochiti, Santa Ana, San Felipe and Santo Domingo Pueblos and Shiprock New Mexico Navajo Reservation

Chart 11-F